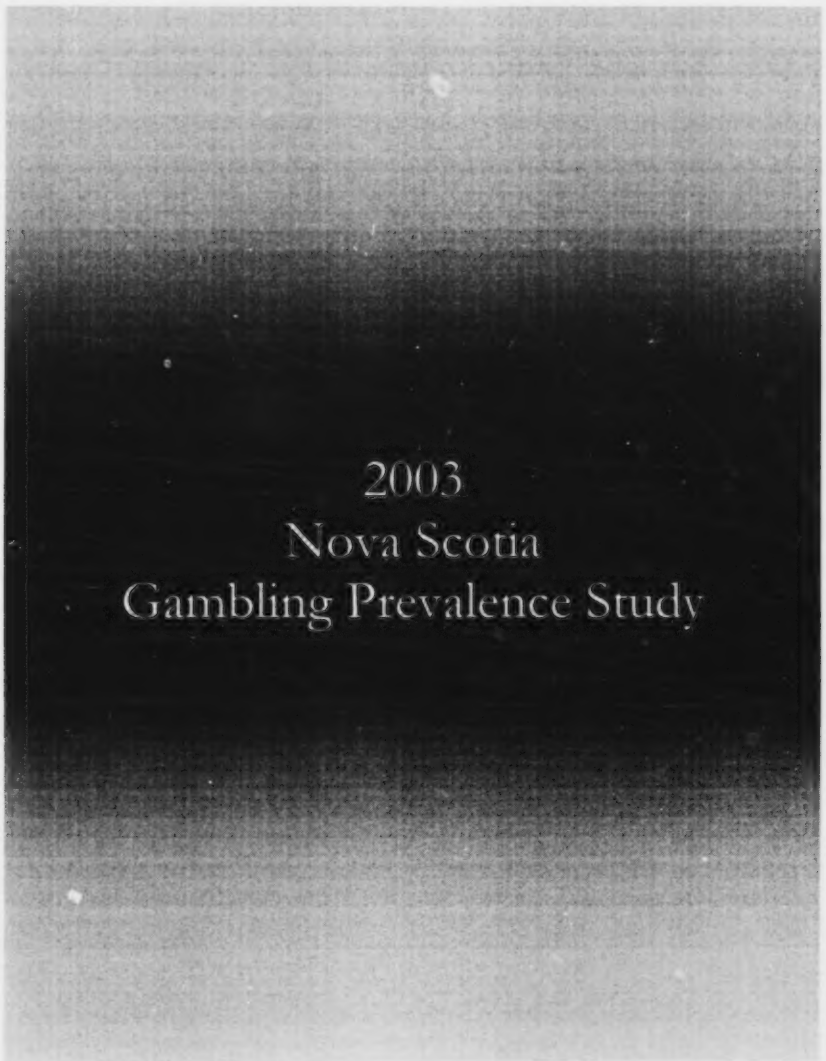
Office of Health Promotion
Addiction Services



NOVA SCOTIA
Health Promotion

2003 Nova Scotia Gambling Prevalence Study
Nova Scotia Office of Health Promotion
Final Report
June 2004

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NOVA SCOTIA
Health Promotion

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Any errors or omissions are solely the responsibility of the principal investigators at Focal Research Consultants. The opinions expressed in the report are those of the authors and do not necessarily reflect the views or policies of the Nova Scotia Office of Health Promotion, or any regulatory or community gaming body, group or organization in the province.

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EXECUTIVE SUMMARY

The 2003 Nova Scotia Gambling Prevalence Study, commissioned by the Nova Scotia Office of Health Promotion, marks the third gambling prevalence study to be conducted in the province (1993, 1996 and 2003) and the first using the new Canadian Problem Gambling Index (CPGI) measure. This Report describes the prevalence of gambling and problem gambling among adults 19 years of age and older who are permanent residents of Nova Scotia, living in private households in the province. In addition to examining general gambling prevalence using the PGSI – Problem Gambling Severity Index (scored items of the CPGI) to identify problem gambling, self-reported involvement in problem gambling was also obtained independently by type of gambling activity. This data represents the first opportunity to systematically compare gambling prevalence by type of gambling activity as critical input to planning, management and resource allocation. Therefore, the results of the 2003 Nova Scotia Gambling Prevalence Study can be used as a resource for various provincial stakeholders for gambling in Nova Scotia.

From April 11th to June 13th, 2003, 2,800 adults living in 1,733 randomly selected households throughout the province completed a telephone survey incorporating standardized and adapted instruments as well as customized questions to measure:

- Gambling participation and problem gambling, in general and by gambling activity
- Gambling perceptions, attitudes, behaviours and other problem gambling correlates
- Exposure to problem gambling at a household, family and community level
- Awareness and use of problem gambling support service and programs
- Other substance use and dependency
- General health and well being

An overall response rate of 68% was achieved for the study with 79.8% of all eligible, randomly selected households on the sample fully screened and 85.1% of all adults identified in each household successfully taking part in the study. Results for total adults in the study are accurate within ± 1.85% at the 95% confidence interval (95 times out of 100).

Gambling in Nova Scotia

Currently, seven forms of legalized gambling are available in Nova Scotia including inter-provincial tickets and lotteries, VLTs, Casinos, Bingos, Charitable Lotteries and Raffles, First Nation gaming activities and Harness Racing.

Since the last prevalence study in 1996, the primary changes in gambling activities available in the province include:

- Opening of the expanded, permanent Casino site in Halifax (April, 2000).
- Expansion of ALC Sport Lottery, Sport Select Pro Line to include an Over/Under game (August 2002).
- Introduction of a daily lottery Draw game, Keno Atlantic (October 2002).

There have been a number of initiatives directed specifically at Video Lottery in Nova Scotia during the same time period, including:

- 1998 VLT Moratorium Act capping the machines at 3,234.
- 1999 VLT Retailer Responsible Gaming Program.

- Introduction of new and modified VLTs with responsible gaming features (on-screen clock, pop-up messages at 60, 90 and 120 minutes of continuous play, warning and mandatory cash-out at 150 minutes of continuous play) as well as other features such as bill acceptors, enhanced graphics and new games (2000/01).

Based on the Nova Scotia Annual Gaming Report (Nova Scotia Alcohol and Gaming Authority) key changes in gambling wagers and revenues in Nova Scotia since the last gambling prevalence study in 1996 consist of the following (1996/97 versus 2001/02):

- **Total gambling wagers** (i.e. total amounts bet) have increased by 46.5% since 1996 ($1.2 billion versus $844 million). In 2001/02, Nova Scotians bet approximately $1.2 billion dollars on gambling, the majority of which was allocated to VLTs (47%) and Casino gambling (29%).
- The **actual amount spent on gambling** in Nova Scotia (i.e. total wagered – winnings=losses by gamblers) has increased by 35% since 1996 (≈ $392.5 million versus ≈ $290 million). It can be estimated that the average annual gambling expenditure on government operated and regulated gambling activities had climbed from about $415.00 in 1996 to about $545.00 per adult by 2002. Over half of the increase in expenditure is attributable to VLTs which account for 41% of the total amount spent (i.e. losses) on gambling in the province.
- Due to strong increases in the expenditures at the two Casinos in the province (37.5% increase compared to 1996/97 figures), amounts spent on Casino gambling are now similar to the amount spent on ALC lottery ticket products. Both types of gambling each account for about 25% (≈ $100 million) of total gambling expenditures (i.e. losses) in the province.
- Since 1996, there has been a 44% increase in **net gambling profits** returned to the province of Nova Scotia. VLTs continue to be the most profitable form of gambling, contributing about 60% of net provincial gaming revenue in 2001/02. Despite generating similar levels of expenditures (i.e. losses), Casino gambling only returns about half the net provincial revenues of ALC ticket lotteries (13.7% versus 25%).
- Collectively, charitable Bingo and Charity Raffles and Draws in 2001/02 account for about 8% of total gambling wagers in the province, about 8% of the total gambling expenditures and only contribute about 1% ($1.5 million) of net provincial gaming revenues. These types of charitable gambling are making contributions to not-for-profit groups throughout the province of approximately $5.1 million.

Problem Gambling Prevalence

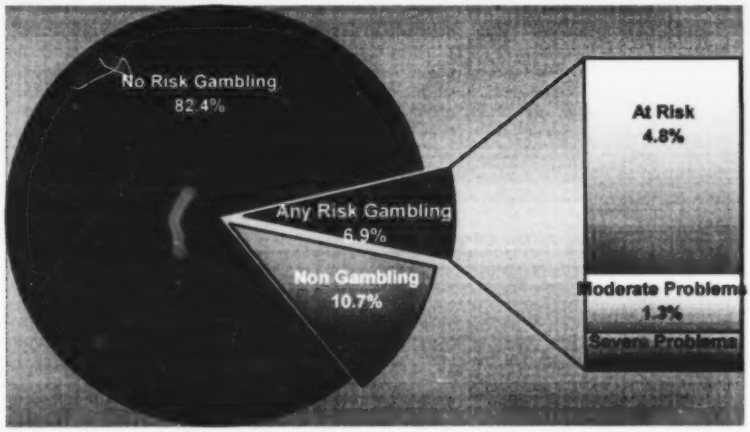
Nova Scotia Prevalence Estimates (1993, 1996 & 2003)

In the Ontario Prevalence Study (Wiebe, Single & Falkowski, 2001) and, more recently, the British Columbia Prevalence Study (Volberg, R.A. & Ipsos-Reid, 2003) the original labels for the four gambling levels identified in the CPGI (Ferris & Wynne, 2001) were modified to reflect differing theories about the progression of gambling problems as measured by the new screen.

CPGI Score	Risk Categories	
0	Non-Problem	No Risk
1-2	Low Risk	At Risk
3-7	Moderate Risk	Moderate Problem
8+	Problem Gambling	Severe Problem

This approach has set a new standard for positioning responses in other provinces. Continuing debate is expected in assessing the efficacy of the approach but, in the interim, the results in Nova Scotia are also examined using the modified labels for comparative purposes.

Figure 1: 2003 Nova Scotia Gambling Prevalence by Canadian Problem Gambling Index Classification (CPGI)



- Based on the Canadian Problem Gambling Index, it is estimated that approximately 6.9% (± .64%) or about 50,000 adults in Nova Scotia are at some level of risk for problem gambling. Of these 50,000 adults, about one-third (2.1%; ≈ 15,000 adults) are currently identified as being involved at problem levels, with 1.3% (± .42%) scoring for Moderate Problems and .8% (± .33%) identified as Severe Problem Gamblers.
- When the results are adjusted in order to allow for any meaningful comparison between SOGS (1993 & 1996) and CPGI-based scores (2003), the percentage of adults identified as Problem Gamblers appears to have remained relatively constant over the 3 measures ranging from 1.7% (± .90%) in 1993 to 2.1% (± .53%) in 2003. However, use of the CPGI has resulted in the identification of approximately 15,000 more adults at potential risk for a gambling problem than was the case 10 years ago (1993: 3.1%; 1996: 3.6%; 2003: 4.8%). This represents an increase of almost 50% in NS over the last decade and is a conservative estimate given that the 1993 figures represent lifetime rates of problem gambling rather than current rates, as is the case in 1996 and 2003.
- Based on the results of the current study, approximately 40% of gambling expenditures (i.e. losses) in Nova Scotia are estimated to come from 6.9% of adults in the province who are currently scoring at any level of risk for problem gambling.

Comparative Canadian Prevalence Estimates

- Nova Scotia is the 7th province in Canada to measure gambling prevalence in the general population using the scored items comprising the Canadian Problem Gambling Index (CPGI). Participating provinces to date are Nova Scotia, New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia.
- Rates of Severe Problem Gambling (≈ 1.1%, ±≈ .44%) are similar in all participating provinces with the exception of British Columbia (.4% ± .25%). BC is the only province that does not offer widespread access to electronic gambling machines in licensed establishments (e.g. VLTs) or slot machines outside of controlled venues. However, the impact of recent gambling expansion in British Columbia, especially Casino gambling (slots) and electronic/linked Bingo, may be reflected in this province having amongst the highest rates of adults scoring for Moderate problems (4.2%) and as being At Risk for problem development (11.1%).

- Introduction of new and modified VLTs with responsible gaming features (on-screen clock, pop-up messages at 60, 90 and 120 minutes of continuous play, warning and mandatory cash-out at 150 minutes of continuous play) as well as other features such as bill acceptors, enhanced graphics and new games (2000/01).

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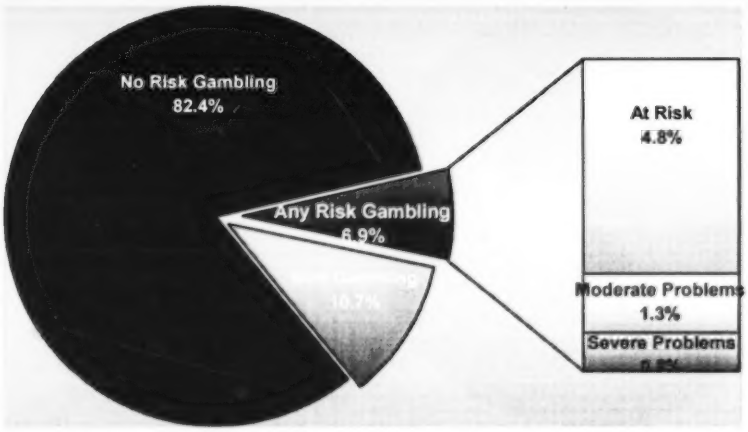

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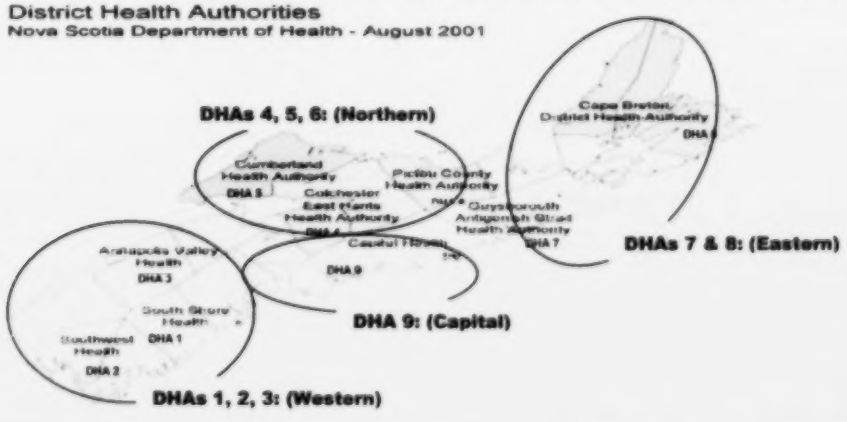
- Rates of Severe Problem Gambling (≈ 1.1%, ± ≈ .44%) are similar in all participating provinces with the exception of British Columbia (.4% ± .25%). BC is the only province that does not offer widespread access to electronic gambling machines in licensed establishments (e.g. VLTs) or slot machines outside of controlled venues. However, the impact of recent gambling expansion in British Columbia, especially Casino gambling (slots) and electronic linked Bingo, may be reflected in this province having amongst the highest rates of adults scoring for Moderate problems (4.2%) and as being At Risk for problem development (11.1%).

- While the rate for **Severe Problems** in Nova Scotia is statistically similar to the other provinces, the proportion scoring at **Moderate Problem** levels is lower in Nova Scotia (1.3% ± .42%), New Brunswick (1.8%, ± .92%) and, to a lesser extent, Manitoba (2.3%, ± .53%) than in Ontario (3.1%) and the three Western provinces (Saskatchewan: 4.7%; Alberta: 3.9%; British Columbia: 4.2%).
- The proportion of adults identified as **At Risk** (but not at problem levels) is also lower in Nova Scotia (4.8%), New Brunswick (4.9%) and Manitoba (6.0%), with the two Maritime Provinces having rates about half that observed in the remaining participating provinces (≈ 4.8% versus 9.3% to 11.1%).
- In those provinces with the highest rates of adults scoring as *"At Risk"* for having gambling problems, there tends to be higher per capita access to Casino type gambling options and other new forms of continuous gambling formats such as linked or electronic Bingo, "racino" operations (race track, slot/gambling machine combinations), improved access to wagering (e.g. on-line, expanded sites) and multi-draw daily lotteries. (Statistics Canada, 2002 Fact Sheet on Gambling; Canadian Gaming News, 2001, Provincial Annual Gaming Reports). Widespread VLT and gambling machine access continues to be associated with higher rates of problem gambling (Moderate to Severe problems).
- Aside from the introduction of two Casinos in Halifax and Sydney in 1994 and the expansion of ALC products to include another Sports Lottery game (Over/Under, August 2002) and a daily Draw game (Keno Atlantic, October 2002), the majority of government activity related to gambling in the province of Nova Scotia has been directed at addressing Video Lottery. Video Lottery wagers and losses in Nova Scotia have continued to increase. In 2001/02, Nova Scotians wagered about $575.5 million on VLTs with this product alone accounting for over half of the growth in gambling expenditures (i.e. losses by gamblers) over the past 6 years and contributing 60% of net provincial gambling revenue. During the same time period, an almost 50% increase has been observed in the percentage of adults identified at some level of risk for problem gambling (1993: 4.8% versus 2003: 6.9%), even though no appreciable change has been observed in the number of adults taking part in Video Lottery gambling (participation rates).
- Compared to those provincial jurisdictions where gambling expansion has been more aggressive during the past 5 to 7 years (e.g. Ontario, British Columbia, Alberta, and Saskatchewan) Nova Scotia appears to have a slower growth rate in the percentage of adults scoring At Risk for problem gambling. However, despite limited gambling expansion in Nova Scotia there has been no reduction in problem gambling rates, with the percentage of adults identified as "At Risk" for problems continuing to increase.

Risks for Problem Gambling in Nova Scotia by Key Population Segments

SHARED SERVICE AREA (NOVA SCOTIA DISTRICT HEALTH AUTHORITIES)


District Health Authorities
Nova Scotia Department of Health - August 2001
DHAs 4, 5, 6: (Northern)
Cumberland Health Authority DHA 5
Colchester East Hants Health Authority DHA 4
Pictou County Health Authority
Cape Breton District Health Authority DHA 6
DHA 7
DHAs 7 & 8: (Eastern)
Annapolis Valley Health DHA 3
South Shore Health
Southwest Health DHA 1
DHA 2
DHA 9
DHA 9: (Capital)
DHAs 1, 2, 3: (Western)

- Prevalence for Problem Gambling appears to be higher in DHA 9 (Capital; 2.2%) and DHAs 7 & 8 (Eastern; 2.7%) as compared to DHAs 4, 5 & 6 (Northern: 1.0%) and DHAs 1, 2 & 3 (Western: 1.8%). However, the only statistically significant difference at the 95% confidence level was for comparison between DHAs 7 & 8 (Eastern; 2.7%) versus DHAs 4, 5 & 6 (Northern; 1.0%). Differences in Problem Gambling levels in DHA 9 (Capital; 2.2%) only reached statistical significance at the 90% confidence level ($p=.097$). One distinguishing feature among the regions is the location of the Sydney Casino in DHAs 7 & 8 and the Halifax Casino in DHA 9. The skewed distribution of VLTs in urban areas of the province, in particular DHA 9 which includes Halifax, may also be a factor influencing differences in problem gambling prevalence among Addictions Services Shared Service Areas.

- Involvement in Casino gambling is twice as high in the DHA 9 (Capital) and DHAs 7 & 8 (Eastern), where the two casinos are located. About 30% of adults living in the Shared Service Areas with the casinos have visited such a venue during the past year versus ≈15% in the other two areas. Regular monthly involvement is also significantly higher in these two regions (≈ 2-5%), with < 1% of adults residing in either the Western (.2%) or Northern (.4%) Shared Service Areas reporting regular Casino gambling. Regular monthly gambling on slots machines is over twice as high in DHAs 7 & 8 (Eastern) as compared to anywhere else in the province (5% versus DHA 9: 1.8%).

- Adults living in DHA 9 (Capital) are significantly more likely have gambled on VLTs in the last year (28% versus ≈ 16%) and to be playing the machines on a regular monthly basis as compared to those living elsewhere in Nova Scotia (8% versus ≈ 5%). Regular sports betting also tends to be higher in Capital Shared Service Area (3.3%) than in DHAs 4, 5 & 6 (Northern: 1.3%) and DHAs 1, 2 & 3 (Western: 1.4%).

- In DHAs 7 & 8 (Eastern) the rate of regular gambling is identical for slot machines (≈ 5%) and VLTs (≈ 5%) suggesting that in contrast to the other Addiction Services areas, involvement in slot machine gambling can be expected to have a similar impact as VLTs. Regular Bingo gambling is also comparatively higher in this part of the province (7.9% versus ≈ 4% to 5%).

GENDER

- The percentage scoring at any level of risk for problem gambling is about 1.5 times higher among men in Nova Scotia as compared to women (8.3% versus 5.5%, $p<.05$). However, the percentage of men identified at Problem levels (Moderate to Severe) only differs from women at the 90% confidence level (2.5% versus 1.6%, $p=.09$). Despite the skew in gambling problems towards men in the province, women still comprise about 40% of those scoring on the CPGI for Problem Gambling in Nova Scotia.

- Males are more likely than women to participate in weekly Draw games, VLTs, Sports Betting and Casino Table games whereas women are more inclined than men to play Scratch 'n Wins, Break-opens and/or Bingo. No differences were observed by gender for Slot Machines or Charity Raffles or Draws.

AGE

- The percentage of adults scoring at any level of risk for problem gambling declines with age. However, for adults under 65 years of age, the percentage scoring for problem gambling (Moderate+) is fairly constant within all age groups.

- Problem gambling rates are only significantly higher in the 25-34 year old age segment as compared to seniors, 55 years or older, in the province (3.4% versus .5% to 1.5%). This 25-34 years age cohort reached the age of majority at a time of rapid growth in gambling options and accessibility in Nova Scotia, in particular the introduction of VLTs and Casino gambling. The results suggest that increased risk observed among young adults in previous studies in Nova Scotia has translated into higher prevalence rates for problem gambling as the group has aged. Given greater family, professional and financial responsibilities for gamblers in this age group (25-34 years) as compared to those aged 19-24,

gambling problems can be assumed to have more significant consequences at a family, household and community level.

- The prevalence of problem gambling has remained stable over time for those 35 years of age or older. Therefore, it can be predicted that, under the current scenario, increased risk and prevalence for problem gambling among younger adults in the province (19 to 34 years) will also hold steady as they continue to age. If this occurs, it will lead to increased problem gambling rates in the province over time.
- With the exception of Weekly Lottery Draws, Bingo and Charity Raffles past year participation in all other forms of gambling declines with age. In terms of regular gambling involvement, the decline associated with age was only observed for Video Lottery, Sports Betting, and Break-opens tickets.
- Regular involvement in slot machine gambling does not differ significantly among any of the age segments with adults 65 years or older just as likely to play slot machines each month (2.4%) as those under 25 years of age (3.1%). Regular Bingo involvement is higher among adults 55 years of age or older (≈ 8.4%) as compared to those under 25 years of age (3.6%)
- Regular purchasing of weekly draw tickets is similar among adults age 35 -65 years (≈ 46%) and least likely to be played regularly by those under 25 years of age (16.9%).
- Adults under 35 years of age (19-34 years) are significantly more likely than those over 35 years to be involved regularly in VLTs (≈ 10%), and specifically in the case of those 19-24 years, Sports Betting (7.1%) and Instant Scratch 'n Win tickets (24.4%).
- For Seniors (55 years +) in the province, regular monthly gambling tends to center on Lottery tickets in general (≈ 50%), Scratch 'n Wins specifically (15%), Bingo (8%), and Slot Machine gambling (2% to 3%).
- For those Seniors living in the Shared Service Areas where the casinos are located, participation rates for slot machine gambling are at least three times higher compared to seniors living elsewhere in the province (Past year participation: ≈ 21% versus 7.5%; Regular Monthly Participation: ≈ 4% versus <1%). This means that about one in 5 Seniors in Eastern (DHA 7 & 8) and Capital (DHA 9) Shared Service Areas gambled on slot machines in the past year with almost one-quarter of these same adults taking up regular playing patterns.

HOUSEHOLD INCOME

- In Nova Scotia, adults at all levels of annual household income are equally likely to be "At Risk" or score for problem gambling. Annual Household Income was only found to be related to general involvement in gambling. The likelihood of having taken part in some type of gambling activity over the past year increases with annual household income, although the majority in all income brackets had gambled in the 12 months preceding the survey (Low: 85%; Mid: 89%; High 95%). For those in the highest income bracket ($60K+), this increased involvement did not translate into greater risk but rather into higher rates of No Risk gambling as compared to those with household incomes under $30,000 per year.
- Participation in Bingo and Break-open lottery tickets decreases as income goes up, whereas likelihood of taking part in Casino gambling, especially Table games, and Sports Betting increases with income. However, regular participation in Slot Machine gambling or VLTs is the same in all income segments.

Gambling Activity in Nova Scotia

General Gambling Participation

- Consistent with previous findings in Nova Scotia and elsewhere in Canada, gambling is a common activity. Almost all adults in Nova Scotia have wagered money on a game of chance at some time

(96.8%) with 89.3% having gambled in the last year, spending, on average, about $645.00. The vast majority (≈ 95%) of this amount spent goes to government operated gambling in the province (≈ $610.00 per gambler/year).

- Adults in Nova Scotia are more likely to be involved in gambling on a regular (55.3%) rather than casual (34.0%) basis. Regular Gamblers (i.e. those who gamble at least once a month) on average spend $1000.00 per year gambling, while Casual Gamblers (those playing less often than once a month) spend only $40.00 per year. Therefore, approximately 92% of gambling revenues in the province are coming from Regular Monthly Gamblers.

- Lottery tickets account for the majority of adult involvement in gambling in Nova Scotia; 79.1% have purchased any lottery ticket game in the past year and 44.5% play regularly, once a month or more. Charity Raffles and Draws (64.5%) and 50/50 draws (39.3%) are also popular purchases over the past year but fall far behind ALC lotteries in terms of regular monthly purchasing (7.6% and 12.9% respectively).

- Past year participation for Casino gambling (23.3%) exceeds that reported for both VLTs (19.0%) and Bingo (15.3%) but regular gambling patterns for the latter two activities are over twice as high (VLTs: 5.1%, Bingo: 5.5% versus Casinos: 1.9%).

- Over the past year, approximately 38.9% of adults only purchased lottery ticket type games (ALC, Charity, 50/50 Draws) on a regular basis each month, spending about $422.00/year on all their gambling and contributing about 28% of annual gambling expenditures in the province.

- There are 6.6% of adults who regularly take part in VLTs & Casino gambling each month, spending on average $3,760.00 in the past year and contributing about 43% of annual gambling expenditures in Nova Scotia.

- There are 9.9% of adults who regularly take part in any other form of gambling, including sports betting, Bingo or card games. On average these regular gamblers are spending about $1,422.00/year and contribute about 23% of all monies spent on gambling in the province.

- Past year participation in non-regulated gambling activities largely consisted of informal card games (16.9%), or to a lesser extent Sports bets/pools (7.5%) and personal bets on games of skill (pool, darts, golf) (4.6%). Involvement in Internet Gambling in Nova Scotia is currently low with only .2% of the adult population having wagered on-line during the past year.

- Only about 5% (≈ $22 million; ≈ $30.00/adult) of all gambling expenditures in the province go towards any non-regulated form of gambling with about $405 million ($548/adult) reportedly spent on government regulated gambling during the twelve months preceding the survey (2002).

- Overall, based on the results of the survey, the average annual gambling expenditure per adult in Nova Scotia is estimated at $578.00 (Regulated: $548.00 + Non-regulated $30.00). When examined using the CPGI categories the average amount spent per year increases dramatically by risk for problem gambling: No Risk Gamblers ≈ $430.00 /year, At Risk Gamblers ≈ $1,800.00/year, Problem Gamblers ≈ $7,000.00/year.

Changes in Gambling Participation Rates

- Compared to 1996 there has been no change in the percentage of adults taking part in at least one gambling activity (1996: 92 versus 2003: 89%), although the average amount spent on **regulated** gambling per adult in Nova Scotia has increased by about 32% moving from ≈ $415.00/adult to ≈ $548.00/adult .

Past Year Participation Rates (1996 versus 2003)

Type of Gambling	1996	2003
Any Gambling	**92%**	**89%**
Lottery Draws	73%	74%
Charity Raffles/Draws	68%	65%
Instant Tickets (S'n Ws, Break-opens)	**65%**	**↓ 50%**
VLTs	21%	19%
Casino Slots	**29%**	**↓ 22%**
Casino Table Games	**6%**	**↓ 4%**
Bingo	14%	15%
ALC Pro Line	5%	5%

- The only changes in past year gambling participation rates between 1996 and 2003 was a decline in the percentage of adults in Nova Scotia having purchased any Instant lottery tickets (1996: 65% versus 2003: 50%) and a decline in the percentage of adults gambling on slot machines (1996: 29% versus 2003: 22%) or Casino table games (1996: 6% versus 2003: 4%). For all other forms of gambling there were no changes observed in past year participation rates between the two measurement periods.

Self-Reported Problems with Gambling Activities

- About 2.5% (± .58%) of Nova Scotian adults self-report having ever experienced problems with some type of gambling, with just over half (56%) of these same people continuing to report problems with some aspect of their gambling (1.4%, ± .43%).
- Based on the results of the current study, it can be estimated that about 18,000 adults in Nova Scotia believe they have experienced problems with their gambling at some time. Approximately 10,000 report that they are continuing to experience difficulties with the amount of time or money spent on any gambling activity.
- The majority (64%+) of those adults self-reporting past and present problems with gambling tend to associate their concerns with a single, specific type of gambling (primarily VLTs) rather than reporting problems across the whole range of gambling activities in which they are involved. In fact only .3% of adults report having ever had a problem with three or more types of gambling.

LOTTERY TICKETS

- Collectively, approximately 88% of adults have purchased a lottery ticket at some time with about .8% (± .33%) of adults reporting having ever experienced problems with any type of lottery ticket game, and about .5% (± .20%) or 3,600 adults still expressing concerns about the amount of time or money they are spending on the activity.
- Compared to 1996 there has been no change in the percentage of adults purchasing ALC Draw tickets with 74% having purchased a Draw ticket in the last year. At least twice as many adults in Nova Scotia buy lottery Draw tickets on a regular monthly basis compared to any other type of gambling (37.4% versus 15.4% or less). Yet, only .2% (≈ 1,500 adults) currently believes they are spending too much on lottery Draw tickets and that they have not yet solved their problem with this form of gambling.
- There has been a decline in past year participation rates for Instant lottery tickets in general. In 1996 65% of adults reported having purchased some type of ALC Instant ticket game but this has dropped to 50% in 2003. During the same time period the average price point for instant games increased.

- Scratch 'n Wins tickets appear to pose greater risks to players than the Draw games. Although regular participation levels are half that noted for Draw games (15.4%), a similar proportion of adults report current problems with these instant ticket games (.3%; ≈ 2,200 adults).

- Of special note is Keno Atlantic, the new daily lottery Draw game introduced in October 2002. Only 9% of adults in Nova Scotia have ever tried any daily lottery Draw at some time with about 6.4% having purchased this new game within the past year and about 2% playing on a regular basis of once per month or more. However, almost 2% of all trial players (≈ .1% of adults) have already reported having problems with the amount of time or money spent on this daily Draw game as compared to only about .4% of all those who have ever purchased weekly Draw tickets.

- Charity tickets and 50/50 draws have higher rates of past year or regular monthly play than either VLTs or casino gambling, however, adults report little to no problems associated with their involvement in these types of activities. Thus, the results suggest that both of these types of gambling currently present low risk to adults in the province. The percentage of adults purchasing Charity tickets in the past year has remained constant compared to 1996 (65%).

CASINO GAMBLING

- Past year participation rates in Casino gambling is ranked second to lottery ticket games in terms of government operated gambling. Unlike the results for more provincially accessible forms of gambling, participation levels are not as strongly skewed towards regular playing patterns. However, more than a quarter of those self-reporting problems with gambling in Nova Scotia are citing Casino gambling as the source, in particular slot machines for which .3% (≈ 2,200 adults) are reporting current problems. It is noteworthy that significantly fewer adults in Nova Scotia reported playing either slots (1996: 29% versus 2003: 22%) or Casino table games (1996: 6% versus 200[illegible] 4%).

VIDEO LOTTERY

- Playing patterns for Video Lottery have remained fairly stable in Nova Scotia compared to previous measures (1997/1998 NS Regular VL Player Survey). There have been no significant changes in trial (1998: 38.5% versus 2003: 36.7%), or regular involvement (1998: 5.7% versus 2003: 5.1%) since the new machines were introduced in 2001, although past year participation rates have fallen (1998: 23.4% versus 2003: 19.0%, p=.03). VLTs continue to be associated with over half of all past (1.4%; ≈ 10,000 adults) and current self-reported gambling problems (.8%; ≈ 6,500 adults) despite the fact that only about 5% of adults are regularly involved in the activity each month. There is no significant difference in the percentage of adults self-reporting current problems with VLTs as compared to 1998 (.9% ± .33%).

OTHERS

- Participation in most other forms of gambling available in the province of Nova Scotia is either not being associated with any problems (e.g., non-regulated card games, personal bets on games of skill) or participation rates are too low to yield sufficient sample sizes to accurately assess risk within the player base (e.g. Internet gambling, ALC's Sport Lottery (Sport Select), Keno Atlantic). Regardless, the outcome is the same, such that at present these forms of gambling are not having a significant impact on self-reported gambling problems by adults in Nova Scotia.

Self-Reported Gambling Problems by Level of Involvement in each Type of Gambling Activity

When self-reported risk is examined by current play patterns, certain forms of gambling emerge as posing greater risk for gamblers in Nova Scotia. In some cases, this risk is masked due to low participation levels. However, participation levels can be influenced by accessibility, promotion and other marketing, regulatory and policy changes. Therefore, examining risk only among the player bases for each gambling activities identifies the proportion of gamblers that are reporting problems independently of the absolute number of adults engaged in the activity. It should be kept in mind that in this analysis risk is operationally defined by those who are self-identifying problems with each form of gambling. Self-identification rates, as in this current study,

typically are lower than risk assessments obtained using standardized screens such as the CPGI. This is largely due to the fact that gambling related consequences must reach a personally significant threshold in order to be identified as problematic. A dichotomous "problem versus no problem" self-classification will not be sensitive in detecting consequences that fall below this threshold but conversely there is greater certainty that those who are self-identifying are experiencing gambling problems ("true positives") whether or not it reaches a clinical threshold for diagnoses.

- Video Lottery exhibits the highest levels of relative problems. About one out of every 28 people (3.6%) who have ever tried these gambling machines report having experienced problems with the amount of time or money spent on the activity. Among past year VLT gamblers, the proportion jumps to one in 17 (5.8%) but increases dramatically to about one out of six adults (16%) who take part in VLT gambling at least once per month. This is the highest rate of self-reported problem development compared to any other form of gambling available in Nova Scotia.

- Approximately .4% of adults report problems with Casino gambling, especially Slot Machines (.3% of adults). This is only about half the proportion of adults self-identifying for problems with VLTs (.8%). This difference between Casino gambling and VLTs is largely due to lower regular playing patterns for Casino gambling. When only regular monthly Casino gamblers are considered the percentage reporting gambling problems does not differ significantly from rates observed for VLTs. Self-reported problems climbs to one out of every nine regular monthly Casino gamblers; only slightly lower than reported for VLTs (11.3% versus 16%). It is noteworthy that the rate of problem gambling is substantially lower for past year Casino gamblers (2.5%; 1 out of every 40 current casino patrons). This reflects the influence of casual, non-regular casino patrons, who collectively report lower levels of associated problems. The risk drops to one-third that of VLTs among those who have ever played at a Casino (1.3% versus 3.6%) suggesting that only 1 out of every 75 adults in Nova Scotia who have ever visited the casino has experienced any problems with their participation. Therefore, for Slots especially, it is involvement in regular monthly gambling that is associated with problems, whereas problems with Video Lottery are higher among all segments as well as increasing with frequency of play. This difference reflects the fact that playing patterns for VLTs, a more accessible form of gambling in Nova Scotia, are skewed more heavily towards regular than casual play as compared to Casino Gambling in the province.

- Three other forms of gambling in Nova Scotia also emerge as being associated with higher levels of problems for those who take part in the activity: Bingo, ALC Sports Lottery and Break-open tickets. All of these games contribute a small proportion of self-reported problems, yet among regular gamblers for each activity, prevalence of self-reported problems almost doubles. While the percentage of regular gamblers reporting problems with any of these activities is substantially lower than for VLTs and Casino gambling, it appears that one in about every 30 regular Bingo players (3.2%) and one in every 45-50 regular Sports Lottery (2.2%) and Break-open gamblers (2.1%) has experienced problems related to their involvement with such gambling. This has implications for product expansion or other changes that influence accessibility and player's level of involvement with these types of gambling.

- In the case of Keno Atlantic, the new daily lottery Draw had only been launched six months prior to the survey with only about 6.4% of adults having purchased at least one of these tickets. Yet 2.2% of those who had played during this introductory time period were already reporting problems, a rate that is at least three times higher than that reported among past year players for any other lottery ticket game (2.2% versus .4% to .7%).

Risk for Problem Gambling by Type of Gambling Activity (CPGI)

Unlike player self-reports and other diagnostic problem gambling screens (SOGS, DSM IV), the CPGI provides greater sensitivity in assessing levels of risk for problem development. This is important for planning and preventative purposes. However, a limitation of the CPGI, and other overall measures of problem gambling, is that it does not effectively differentiate among problems for the various gambling activities. Risk for problem gambling associated with one form of gambling will also show up for any other type of gambling

that person also takes part in, whether or not this activity is contributing to any problems for the individual. Therefore, it is difficult to use the measure to test for differences in problem gambling rates by type of gambling activity (e.g., it is not possible to determine whether an activity is directly contributing to problem gambling development or is simply a gambling option more likely to be played by those with gambling problems). Despite this limitation, it is still clear from the CPGI data in Nova Scotia that, consistent with player self-reported gambling problems, more continuous forms of gambling available in the province are associated with greater risk for problems, in particular for those who are involved in the activity on a regular monthly basis.

- Involvement in regular gambling is associated with increased likelihood of experiencing problems, especially among certain types of gambling. Therefore, it is not surprising to find that those scoring for No Risk gambling are less likely to be involved in any form of gambling on a regular monthly basis and when they do take part regularly, tend to be involved in lower risk activities such as weekly Draws and Charity raffles or 50/50 tickets.
- The only notable distinctions in past year gambling involvement among adults scoring At Risk versus Problem Gambling are observed for Keno Atlantic, a new daily lottery ticket game (14.2% versus 26.8%), and VLTs (53% versus 82.1%). However, at present, Video Lottery is the only gambling activity in Nova Scotia for which regular involvement increases with risk for problem gambling (as identified by the CPGI) at the 95% confidence level (No Risk: 3.5%, At Risk: 24.6%, Problem: 51.8%). Increased risk for Casino gambling was observed at only the 90% confidence level (p=.10).
- Just under half (43%) of regular VLT gamblers are currently scoring at some level of risk for problem gambling on the CPGI, with 20% identified at moderate to severe problem levels. This means that almost one in two monthly VLT gamblers in Nova Scotia is scoring at some level of risk, with one in five scoring for problems.
- Casino gambling (34%) and ALC's Sports Lottery, Sport Select (35%), also tend to reflect relatively higher levels of risk for regular gamblers. However, the percentage of adults gambling each month on either of these activities is relatively low (<2% of adults) and, therefore, the magnitude of impact will be less than for other, less risky, gambling options played by a larger proportion of the population (e.g., lottery Draw and Instant tickets). In the case of Casino gambling, the impact of problems associated with regular Casino gambling will be much higher in the Addiction Services Shared Service Areas where the casinos are located (DHA 9: Capital; DHAs 7 & 8: Eastern).

Use of Alcohol, Tobacco, and Additional Sources of Money While Gambling by Risk for Problem Gambling (CPGI)

The differences in behaviours observed among the risk segments are primarily related to the type of gambling activities associated with risk for problem gambling in Nova Scotia. Risk for problem gambling in Nova Scotia is related to participation rates in Video Lottery and Casino gambling, both of which are offered in licensed establishments that generally have also provided gamblers with smoking privileges and easy access to various cash sources. Not surprisingly, No Risk Gamblers, who largely gamble regularly on lottery ticket games, are less likely to be using any of these substances or services while gambling.

- As expected, alcohol and especially tobacco use while gambling increases with risk for problem gambling. Just over half of all those scoring at Moderate+ Problem levels almost always smoke when gambling (51.8%) versus only 5.8% of No Risk Gamblers.
- While most high risk gamblers in Nova Scotia (64%) consume alcohol on at least an occasional basis while gambling, only about one-third regularly drink while gambling, with the vast majority reporting that they never (60%) or only sometimes (27%) gamble while "drunk or high".
- Use of additional sources of money while gambling is one of the strongest discriminators of risk for problem gambling. No Risk Gamblers rarely, if ever, access additional sources of money when gambling,

with the use of ATMs exclusively reported by those scoring at any level of risk for problem gambling, especially Moderate and Severe Problem Gamblers. Only 28.9% of those scoring as Problem Gamblers report that they never use a bank machine to get additional cash while gambling as compared to 73.9% of At Risk Gamblers and 96.8% of those scoring at No Risk.

Awareness and Use of Problem Gambling Services

Awareness of Problem Gambling Services in Nova Scotia

- Almost two-thirds (62.9%) of adults in Nova Scotia have heard of some kind of program or service to assist people who are encountering problems with their gambling. Just under half of all adults (47.6%) report awareness of such services to assist families affected by gambling problems.
- While general awareness that problem gambling services exist is high, familiarity with specific services is substantially lower. When asked to reference problem gambling services, less than half (47.3%) of those surveyed could cite even one specific service, with fewer than one-third mentioning any one of the primary programs or services offered in the province.
- Unaided awareness was highest for Gamblers Anonymous (30%), followed by the Problem Gambling Help Line (21.6%) and any programs or services associated with Addictions Services (11.9%).
- Unaided recall increases with risk for problem gambling only for the Problem Gambling Help Line. Almost half of all Moderate to Severe Problem Gamblers in Nova Scotia cited this source without being prompted. This high level of top-of-mind awareness for the Problem Gambling Help Line is most likely related to the tendency for Problem Gamblers in Nova Scotia to be involved in VLT gambling. The number for the Help Line is now posted on all gambling machines in the province. This approach appears to be effective in preferentially generating awareness among those at highest risk for gambling problems.

Level of Exposure to Problem Gambling (All Adults)

- Overall, 20% of adults in Nova Scotia (≈ 150,000 people) are personally aware of someone they believe is currently having a problem with their gambling. For the vast majority of these people (12.4% of adults or 62% of those personally aware of a problem gambler), contact with the problem gambler is fairly intimate through family members (8%) or close friends (7%). This suggests about 93,000 adults across the province know of at least one person they care about who is having a gambling problem.
- Approximately 2.4% (≈ 18,000 adults) report direct exposure to problem gambling in their household, with 6.3% (≈ 46,600 adults) citing current gambling problems among other family members.
- Similar to players' self-reports of problem gambling, Video Lottery is mentioned most often in association with general exposure to problem gambling through friends and family members (17.6% of adults personally know at least one person in Nova Scotia who currently is having a problem with VLTs). This means that about 86% of those who personally know someone with a gambling problem cite VLTs as being involved.
- About half as many adults are reporting exposure to problems associated with Casino gambling (8.5% of adults cite problems with Casino gambling, especially slots (7.5%) in relation to others' gambling problems).
- Scratch 'n Win tickets, Bingo and Casino Table games are only mentioned by 3% of adults as playing a role in the gambling problems they are exposed to by others.

- General gambling problems were reported by only .4% of the adults, suggesting that similar to adult's self-reported experience, in Nova Scotia problem gambling is perceived to be more activity-specific rather than a generalized condition.

- Approximately 5%, ≈ 37,000 adults, in Nova Scotia have knowingly provided either financial (3.4%) or other non-monetary assistance (3.0%) to someone who is experiencing problems with their gambling.

Use of Problem Gambling Services

- At this time, 4% of adults in Nova Scotia are exposed to problem gambling, either personally or through someone else, and have sought out any information or assistance for a current gambling problem, with the majority (3.8%, ≈ 27,360 adults) contacting formal or professional services.

- Consistent with other previous studies conducted in Nova Scotia (1999 Prevalence of Attitudes and Opinions in Nova Scotia, NSAGA; 1998 NS VL Players Survey, NSDOH), most of those seeking information/assistance from any source (≈ 88%) are doing so to help someone else with a gambling problem rather than to help themselves. Overall 3.5% (≈ 26,000 adults) have been motivated to help someone else with a current gambling problem versus .5% (≈ 3,700 adults) seeking assistance or information for a personal problem.

- Use of formal services increases with risk for problem gambling. Problem Gamblers as identified by the CPGI are more inclined to be accessing formal sources of assistance (16.1%) over informal help from friends and family members (10.7%). This is in marked contrast to previous studies that had found Problem VLT Gamblers were more inclined to go to friends and family members for assistance (26%) than to formal sources of help (15%) (1998 NS Regular VL Players Study, p 3-103). While the percentage of Problem Gamblers accessing formal sources of assistance is similar to previous levels of use, it appears that informal support is now being sought out less often.

- In general, family doctors are accessed as often as other designated problem gambling services (≈ 1% of all adults), especially by those at highest risk for gambling problem (10.7% of Problem Gamblers). Problem Gamblers report going to their Doctors more often than Gamblers Anonymous (7.1%), the Problem Gambling Help Line (5.4%) or Addictions Services (3.6%). This suggests that family doctor offices/GP clinics can be an important contact point for disseminating information.

- Primary barriers in seeking out assistance to help someone else with a gambling problem center on reluctance to get involved due to uncertainty related to the problem itself, and the problem gambler's response to any intervention.

- For those who are personally experiencing difficulties or are at high risk for problem gambling (n= 24), primary barriers to seeking out formal assistance consist of concerns about privacy, embarrassment, lack of understanding or knowledge about what is out there to help, inconvenience of getting access to help, a belief that what is currently available can't help them and a belief that they must overcome the problem on their own with support from friends and family.

Suggested Improvements for Services Offered to Problem Gamblers

- The two most popular suggestions put forth by those exposed to problem gambling, either personally or through another's involvement, consisted of "*more advertising and promotion*" for the services (30%) and "*ban or get rid of the VL machines*" (22%). There was an additional 10% who argued for "*reduced access*" to the Video Lottery machines by restricting them to controlled locations or casino venues. These recommendations were endorsed more strongly by those scoring at any level of risk for problem gambling, with two-thirds of Problem Gamblers arguing for elimination or restrictions for Video Lottery (67% versus ≈ 27% in the other risk segments). All adults felt that more advertising was essential to ensure that people are aware of the issue and know where to go to get help or information.

- Improved distribution and access to information and materials (18%) and greater emphasis on education and prevention (8%) were also mentioned by those exposed to problem gambling. There was an emphasis that education, prevention and intervention options need to be more visible and accessible.

Other Substance Use and General Health

Other Substance Use

- Smoking, self-reported problems (past and current) with alcohol, non-prescription drug use, and the use of prescription medications (for pain, to sleep, anxiety or depression) all increase with risk for problem gambling. However, despite the strong association, only a minority of those identified as Moderate to Severe Problem Gamblers are currently experiencing any difficulties with other substance use, with the exception of tobacco use (54% smoke tobacco daily). Rates of smoking among Problem Gamblers are twice as high as in the population at large (54% versus 23.5%).

- Those at any level of risk for problem gambling are more inclined to report drinking on a regular weekly basis than No Risk Gamblers but, overall, there are no significant differences among any of the CPGI gambler groups in the percentage consuming alcohol each month. However, there is a significant relationship between self-reported alcohol problems and gambling problems. The percentage who report past or current problems with alcohol increases with risk for problem gambling. Despite this strong relationship, only 12.5% of adults scoring for Problem Gambling are also reporting a current drinking problem. Among those scoring for Severe Problem Gambling in the current study (CPGI score=8+; n=21) 19% are self-reporting a concurrent problem with alcohol, however, the margin of error surrounding this estimate is large (± 16.75%) due to the small sample size for Severe Problem Gamblers in the current study. Therefore, while there is a significant association between alcohol and gambling problems, the majority of Problem Gamblers are not reporting alcohol problems nor consuming at rates that differ significantly from Non Problem Gamblers.

- In contrast to findings for alcohol consumption, gamblers scoring at any level of risk for problems are more likely to be using non-prescription drugs. This reflects the younger age skew for those identified as at risk for problem gambling in Nova Scotia. The only difference between the At Risk and Problem Gamblers is observed for self-reported problems. Again, the percentage of adults reporting non-prescription drug problems increases significantly with risk for problem gambling. About 9% of those at scoring for gambling problems also report having had a drug problem in the past, with 3.6% reporting current problems associated with their non-prescription/illicit drug use.

- During the past year, Problem Gamblers are more likely to have used prescription medication to help them sleep or for depression as compared to adults in any of the other CPGI segments. Almost one in 5 adults scoring for Problem Gambling took medication for these reasons over the past year.

- The percentage of adults self-reporting current problems with alcohol (1.5%) and gambling (1.4%) in Nova Scotia is comparable, and exceeds levels reported for either prescription (.7%) or non-prescription drug abuse (.3%).

General Health and Well Being

- All respondents taking part in the study were asked whether or not they had experienced any of the following events or incidents over the past year: income/job loss, debt or financial problems, loss of spouse/partner, relationship problems, health problems, work problems, loneliness/increased isolation

and depression. They were then questioned as to whether or not any of these experiences were related to gambling (their own gambling, someone else's, or both).

- Over the past year, only 38% of adults in Nova Scotia reported any of the negative experiences measured, although this climbs with risk for problem gambling to 71% of all those scoring for Moderate to Severe Problem Gambling.

- With the exception of health-related problems, which occur equally among all adults, Problem Gamblers are more likely to have experienced each of the other items measured. Almost one in two cite debt and financial problems, one in three note relationship problems and one in four report job and income losses over the past 12 months. For about one out of every five Problem Gamblers, depression, loneliness, and work-related problems were also reported.

- By obtaining estimates of the general incidence of such events and then determining if the experience was related to gambling (either by self or gambling by others), it is possible to assess whether or not certain situations/experiences are more likely to be risk factors or consequences of gambling.

- In the majority of instances, gambling is not cited as a contributing factor although about 40% of those scoring as Problem Gamblers directly attribute financial problems and debt to their gambling.

- Gambling is implicated in about 6% of all relationship problems reported by adults in the province and about 5% of all financial problems in Nova Scotia over the past year.

- The preliminary results suggest that depression, loneliness and loss of spouse or partner are more often reported to be unrelated to gambling and, thus, may be precipitating factors or vulnerabilities that precede problems; whereas financial problems are more likely to be cited as a consequence of play (although not always, which suggests that pre-existing "money problems" are also a risk factor for problem gambling).

- Despite significant differences in mental health correlates, there is no significant variance in self-reported "state of health" among any of the risk segments. Compared to others their own age, about 60% of adults in all groups rate their personal state of health as "excellent" to "very good". Only 11% of Nova Scotian adults are reporting that their health is only fair (9%) or poor (2%).

Recommendations

Based on the results of the study, the Nova Scotia Office of Health Promotion has identified 6 primary recommendations:

1. To develop a media and resource development plan for Problem Gambling Services using social marketing. The findings from this study will be used to develop an array of new, evidence-based materials and resources to increase knowledge of problem gambling and awareness of the services available for those at any level of risk problem gambling.

2. To develop prevention programs for targeted high risk populations as identified in this study. Such target groups consist of : Regular Gamblers for continuous forms of gambling especially electronic gambling machines (VLTs, slots); adults age 19-24 years (risk reduction) ; adults age 25-34 years (risk and problem reduction); Seniors (Adults 55 years +) in particular for Casino gambling, instant lottery products and other continuous forms of gambling.

3. To develop and disseminate self help manuals and educational materials for those at any level of risk for problem gambling and their families as part of a long-term intervention strategy.

4. To develop a comprehensive research plan for Problem Gambling Services that will: set the research priorities, including the conduct of prevalence studies at 5 year intervals; focus upon the social and economic impact of gambling in Nova Scotia; and make provisions to conduct target specific studies of continuous forms of gambling which present the greatest threat to public health.

5. To develop a comprehensive training and educational program for Addiction Services staff in the district health authorities and for health and social service providers who work with those having problems with gambling and their families.

6. To develop, in a timely manner and in collaboration with the gaming sector, evidence based policies and procedures that ensure a socially responsible balance between public health interests and revenue generation.

Section 1

INTRODUCTION

The primary purpose of prevalence studies is to provide information from a community health perspective to assist in the planning process for public health action and accountability.

NOVA SCOTIA PROBLEM GAMBLING SERVICE OBJECTIVES:

- Develop resources and materials
- Supplement gambling programs/services
- Support prevention, early identification and treatment initiatives
- Increase awareness
- Support and manage research

In 1993, the mandate of Addiction Services (formerly Drug Dependency Services) was expanded to include problem gambling treatment, education and prevention in each of the Health Regions throughout Nova Scotia. Rapid growth in the gaming industry in the early 1990's, in particular following the introduction of government operated video lottery machines in the province, led to greater accessibility to new, more continuous forms of gambling. Along with substantive increases in profitability were concomitant increases in the number of Nova Scotians presenting with problems associated with their gambling activity. In recognition of a need for systematic information, a gambling prevalence study was initiated in 1993 to measure problem gambling in Nova Scotia (Omnifacts Research, 1993). This study was intended to establish benchmark measures of gambling prevalence against which future measures could be monitored and compared. The study used a modified version of the South Oaks Gambling Screen (SOGS) to establish lifetime estimates of problem gambling prevalence in Nova Scotia.

In 1996, a second study was conducted using the standardized South Oaks Gambling Screen for identification of current rates of problem, probable pathological and pathological gambling (Baseline Research, 1996). Between the two measurement periods, there were no statistically significant differences observed in the prevalence rate for problem gambling, nor any detectable differences in the profile of Problem Gamblers.

Since 1996, there have been a number of significant changes in gambling policy and practices in Nova Scotia. In addition to developments in gaming technology and changes in gaming products available in the province, there have also been concerns surrounding the reliability of previous methodologies in measuring problem gambling through general population surveys. To address these criticisms, an inter-provincial task force was formed to create and validate a new Canadian instrument for epidemiological health studies of problem gambling in the general population. This collaborative effort resulted in the creation and validation of the Canadian Problem Gambling Index (CPGI) (Ferris, Wynne & Single, 1999). It was used in a Canada-wide survey in 2001 (Ferris & Wynne, 2001) and has since been applied in 6 provincial studies in Canada. In consideration of the continued development and expansion of the gaming industry in the province of Nova Scotia and the establishment of comparative benchmarks using the CPGI, the Nova Scotia Office of Health Promotion (Addiction Services) commissioned a new prevalence study to determine the current extent of problem gambling in the province and the public health implications of gambling involvement.

Goals & Objectives

Research Goals:

- **Obtain current information on gambling and problem gambling in Nova Scotia**
- **Obtain a reliable sample and database of information**
- **Identify critical measures for on-going tracking**

The research goals for the study, as defined by Addiction Services, Nova Scotia Office of Health Promotion, are threefold:

1) To conduct a new prevalence study incorporating the Canadian Problem Gambling Index for classification of problem gambling in order to determine current rates of problem gambling in the province of Nova Scotia;

2) To obtain a sufficient and reliable sample and database of information in order to allow for meaningful examination of response within various populations in the province including Health Region, age, by type of gambling activity or other areas of interest;

3) To identify critical measures for informing public health policy, promotion, prevention, treatment and support related to gambling.

In Nova Scotia, public health issues associated with gambling are often impacted by commercial and regulatory practices and policy. To effectively manage the public health implications requires a cooperative and coordinated approach among the various stakeholders.

The 2003 Nova Scotia Gambling Prevalence Study was designed in consultation with the Nova Scotia Office of Health Promotion (NSOHP) and principal investigators T. Schrans and Dr. T. Schellinck at Focal Research Consultants. Focal Research had previously conducted the 2001 Survey of Gambling and Problem Gambling in New Brunswick (Schrans, Schellinck & Walsh, 2001) and the New Brunswick Seniors Prevalence Study (Schrans, Schellinck, Grace & Walsh, 2002) using the CPGI measures, and had been part of the review process for the CPGI in Nova Scotia. In addition, Focal Research's methodology for population-based research in the area of gambling has been peer reviewed and found to be *"...a model for future research in its generation of a unique database of significance to all aspects of social policy and treatment service development."* (Dickerson & Baron, *Addictions*, 2000, p.1148).

The 2003 Nova Scotia Gambling Prevalence Study Final Report describes the prevalence of gambling and problem gambling among adults 19 years of age and older who are permanent residents of Nova Scotia, living in private households in the province. In addition to examining general gambling prevalence using the PGSI – Problem Gambling Severity Index (scored items of the Canadian Problem Gambling Index (CPGI)) to identify problem gambling, self-reported involvement in problem gambling was also obtained independently by type of gambling activity. This data represents the first opportunity to systematically compare gambling prevalence by type of gambling activity as critical input to planning, management and resource allocation. Therefore, the results of the 2003 Nova Scotia Gambling Prevalence Study can be used as a resource for various provincial stakeholders for gambling in Nova Scotia.

From April 11th to June 13th, 2003, 2,800 adults living in 1,733 randomly selected households throughout the province completed a telephone survey incorporating standardized and adapted instruments as well as customized questions to measure:

- Gambling participation and problem gambling, in general and by gambling activity
- Gambling perceptions, attitudes, behaviours and other problem gambling correlates
- Exposure to problem gambling at a household, family and community level
- Awareness and use of problem gambling support service and programs
- Other substance use and dependency
- General health and well being

Surveys were conducted with 2,800 adults living in 1,733 randomly selected households throughout Nova Scotia. An overall response rate of 67.9% was achieved, yielding a reliable database of information that can be generalized to the population at large.

An overall response rate of 68% was achieved for the study with 79.8% of all eligible, randomly selected households on the sample fully screened and 85.1% of all adults identified in each household successfully taking part in the study. Results for total adults in the study are accurate within ± 1.85% at the 95% confidence interval.

The analysis in the following report is descriptive and results significant at the minimum 95%+ confidence level ($p<.05$) are highlighted for consideration and discussed. Full data tables segmented by Shared Service Area, Age, Gender, Income, Gambling Status, Self-Reported Problem Gambling and CPGI Risk categories are presented in Appendix X (found under separate cover).

Gambling in Nova Scotia

Currently, there are seven forms of legalized gambling available in Nova Scotia, including: inter-provincial tickets and lotteries, VLTs, Casinos, Bingos, Charitable Lotteries and Raffles, First Nation gaming activities and Harness Racing.

Government operated gambling in the province is restricted to adults 19 years of age or older with licensing, operation and regulation pursuant to the Criminal Code of Canada and the Nova Scotia Gaming Control Act (1994-95). The Gaming Control Act also enacted the creation of two bodies; the Nova Scotia Alcohol and Gaming Authority (NSAGA) (previously the Nova Scotia Gaming Control Commission) which is the licensing and regulatory body for lottery products (charitable and commercial), Video Lottery Terminals, Casinos, and Bingos (charitable and commercial) in Nova Scotia; and the Nova Scotia Gaming Corporation (NSGC) which is responsible for gaming business administration, operation and management for lottery products, Video Lottery, Casinos, and Harness Racing.

NS GAMING LEGISLATION:

Gaming Control Act:

- *Casino Regulations*
- *Atlantic Lottery Regulations*
- *Video Lottery Regulations*
- *Sydney Casino Profits Charity Trust Fund Regulations*

Nova Scotia Gaming Foundation Regulations

Nova Scotia Harness Racing Inc. Regulations

Video Lottery Terminal Moratorium Act

In addition to regulated gambling, adults in Nova Scotia can also access Internet gambling sites (originating outside of the province), and participate in private wagering and card games played for money (outside of the casino).

First Nation Gaming in Nova Scotia is subject to independent agreements with the province, administered through the Office of Aboriginal Affairs. These agreements do not fall under the jurisdiction of the Nova Scotia Alcohol and Gaming Authority and Nova Scotia Gaming Corporation as enacted in the Nova Scotia Gaming Control Act (1994).

FIRST NATION GAMING[1]

In Nova Scotia, First Nation gaming operations are subject to independent agreements with the province that fall outside of the Alcohol and Gaming Authority and are regulated by independent band gaming commissions. Based on available information, currently 11 of 13 Mi'Kmaq communities participate in a series of gaming agreements with the province, administered through the Office of Aboriginal Affairs. VLTs are rented from the Nova Scotia Gaming Corporation, through the Atlantic Lottery Corporation (ALC), and service includes access to responsible gaming programs and support available to all VL site-holders in the province. In 2001/02, it was reported that there were 407 First Nation Video Lottery Terminals contributing approximately $20 million in band revenues. In 2002/03, the number of First Nation gambling machines is estimated at 564, generating band revenues of approximately $28 million.[2]

Total wagering on Harness Racing in Nova Scotia is estimated at $12 million dollars (≈ 1% of total provincial gambling wagers). About 12% of wagers are generated from live event attendance and 88% originate from telephone (simulcast) wagering. Harness Racing is currently subsidized and does not contribute to provincial gaming revenues.

HARNESS RACING[3]

Harness Racing in Nova Scotia falls under separate gaming legislation (Maritime Provinces Harness Racing Commission Act 1993). NS Harness Racing Incorporated (NSHRI)[4] was designated as a crown corporation on April 7, 1999 to manage and administer the NS Harness Racing Fund (a fund intended to stimulate and support harness racing in the province). Currently, there are three racetracks in Nova Scotia (Truro Raceway, Tartan Downs and Inverness). In 2002/03, 110 live races were offered through subsidized government funding (NSGC: ≈ $750,000 annually; NS Agriculture and Fisheries: ≈ $50,000 (2002/03 only)). NSHRI core business includes "entertainment" by providing both live and simulcast events at approximately 5 "teletheatre" sites throughout the province (Amherst, Antigonish, Dartmouth, Goodwood and Lower Sackville).

Video Lottery Terminals are now also present at Truro and Tartan Downs to supplement revenue-generating capabilities and support the industry. This attempted revitalization of harness racing in the region is being operated under the ALC Harness Racing Corporation. It is still in early stages of development and is not yet self-sufficient in Nova Scotia, or contributing to provincial revenues, with expected declines in outside funding over the next fiscal year posing significant challenges for on-going viability.

[1] Office of Aboriginal Affairs, Annual Accountability Report, Fiscal Year 2001-02, July 31, 2002.

[2] Office of Aboriginal Affairs, Annual Accountability Report, Fiscal Year 2002-03, July 31, 2003.

[3] Crown Corporation Business Plans for the Fiscal Year 2003-2004, Nova Scotia Harness Racing Incorporated, pages 151-156.

4 NSHRI is a wholly-owned subsidiary of the Nova Scotia Gaming Corporation.

In 2001/02, the total amount wagered on ALC lottery products in Nova Scotia was $204.4 million representing about 16.5% of all gambling wagers in the province.

ALC LOTTERY PRODUCTS[5]

Inter-provincial tickets and lotteries in Nova Scotia are managed and administered by the Atlantic Lottery Corporation (ALC) under the direction of the Nova Scotia Gaming Corporation (NSGC). In September 1976, ALC was established by the four Atlantic Provinces to operate ticket lotteries in each province. There are about 1,200 retail lottery outlets in Nova Scotia including Lottery Centre kiosks in malls, convenience stores/corner-stores, grocery stores, drug stores, gas stations, and, in the case of break-open tickets, in liquor licensed establishments (e.g., bars). Atlantic Lottery products consist of the following types of ticket games: [6]

- On-line Lottery ticket Draw games such as Lotto 6/49 and Lotto Super 7, which are national weekly and semi-weekly draw games (Inter-provincial Lottery Corporation (ILC)), and provincial tickets such as TAG, Atlantic 6/49, Wild 5, PIK4 and Keno Atlantic (a new daily lottery ticket game introduced in October 2001). Games are dependant upon random computer generated outcomes for specified "draw schedules". Tickets are purchased and can be validated by accessing on-line terminals at the retail location. Until 1981, the only tickets offered in the province were bi-weekly, weekly, or special occasion draw games, typically at a cost of $1.00 to win top prizes of $100,000 or less. In 1982, national Lotto 6/49, a pari-mutuel[7] type draw game, was launched which allowed for larger jackpots ($1 million and jackpot "roll-overs" for reduced odds of winning (≈ 1:13,983,816 for winning the top prize; 1:54 odds of winning anything)). In 1994, Lotto Super 7, a national draw game, took this further with jackpots reaching levels of $17 to $22 million on occasion and a ticket cost of $2.00 (approximate odds of winning top prize ≈ 1:20,963,833; odds of winning any prize 1:5.887). Both national games offer players options to purchase add-on provincial games.

- Instant Lottery tickets (Scratch 'N Wins or "extended play" tickets) at various price points from $0.50 Break-opens (redeemable only at retail purchase-site), to $20 special tickets, with a core product line of tickets including Lotto Bingo, Crossword, Set For Life, and other seasonal and special-themed offerings. These tickets are pre-printed and allow consumers to immediately determine game outcomes upon purchase. Tickets can be validated instantly on-line to determine any winnings and are typically displayed on

[5] Nova Scotia Annual Gaming Report 2001-2002, Nova Scotia Environment and Labour, Alcohol and Gaming Authority, Provincial Gaming Activity: ALC Lotteries, p.24.

[6] ALC Annual Reports, 2000/01- 2002/03; ALC Website: www.alc.ca.

[7] Pari-mutuel refers to a system of betting in which the winners share in the total amount wagered. In the case of Lotto 6/49, a $2 million minimum jackpot is currently guaranteed and can "roll-over" (accumulate) over draws for which the top prize is not won. Players can pick their own numbers so prize amounts associated with selected numbers are shared among all qualified winners. Top prizes are paid out for matching 6 of 6 numbers, excluding the bonus number. Based on total wagers, declining amounts are paid out for matching fewer numbers down to 3 out of 6 numbers drawn.

counter top units at the cash register area of participating retailers. Instant games were introduced in Nova Scotia in 1983 at the $1.00 price point. The first $2.00 ticket was offered in 1988, and extended play versions of the instant games were launched in 1991 with Lotto Bingo. By 1996, the extended play instant ticket line included a wide variety of games based on new and familiar themes, including Crossword, Monopoly, Auto Plus, "Trucks & Bucks" and others designed to provide greater play value and entertainment to consumers. Odds of winning range from about 1 in 3.5 for any prize to 1:1,000,000 for top prizes. Therefore, compared to lottery draw tickets, the instant games offer better odds of winning for reduced amounts of top prizes.

- Sport Select sports lottery includes two products: Pro•Line and Over/Under, which allow gamblers to wager amounts of $2-$25 on selected sport outcomes (e.g., Baseball, Hockey, Basketball, and Football). Sport Select Pro•Line has been available in Nova Scotia since September 1994, with Over/Under introduced in August 2002. Similar to promotional offers for lottery ticket games, ALC offers sports lottery gamblers chances to win merchandise and other prizes based on the amounts wagered on Sport Select games.

VIDEO LOTTERY TERMINALS [5]

In 2001/02, the total amount wagered on VLTs reached $575.8 million representing the largest amount wagered among all forms of gambling available in Nova Scotia and comprising 46.6% of total gambling wagers in the province.

Video Lottery Terminals (VLTs) are operated by the Atlantic Lottery Corporation with a capped total of 3,234 terminals located at approximately 520 retail sites throughout the province (exclusive of First Nation Gaming sites). In Nova Scotia, in accordance with Gaming Control Act regulations, the payout percentage for VLTs must not go below 80%. The average prize payout in Nova Scotia has traditionally been approximately 95% but does vary by specific game, ranging from rates of 90% to 95%. This number does not refer to the amount paid out in prizes but rather to the percentage of "winnings" that are accrued during play as a percentage of total "wagers". The actual amount cashed out of the machines in winnings (prize payout) is typically about 70% in most jurisdictions, regardless of payout percentages set for the machines. In 2001/02, 71.8% of the total VLT wager was paid out in prizes (cashed out of the machines). VLTs were legalized in Nova Scotia in May 1991 and moved under government operation in order to address the proliferation of illegal gaming devices in the province. Originally, the machines were widely distributed among various types of establishments, including corner stores. In 1993, VLTs were restricted to age-controlled liquor licensed establishments including licensed restaurants, bars, pubs and legions. Since the previous prevalence study in 1996, a number of other changes have been instituted to mitigate problems associated with the play of the machines, including:

[5] Nova Scotia Annual Gaming Report 2001-2002, Nova Scotia Environment and Labour, Alcohol and Gaming Authority, Provincial Gaming Activity: Video Lottery Terminals p.20

- 1998 - Nova Scotia Gaming Foundation (NSGF) is established to replace the VLT Problem Gambling Fund. Its purpose is to fund projects on research, education, and problem gambling treatment, and it is funded by 1% of VLT retailer commissions that are matched by the Nova Scotia Gaming Corporation;
- 1998 - Video Lottery Terminals Moratorium Act caps the number of VLTs allowed to be operated in the province of Nova Scotia at 3,234 (excluding First Nation sites);
- 1999 - VLT Retailer Responsible Gaming Program is launched;
- 1999 - Nova Scotia Gaming Foundation is transferred from the NSGC to Minister of Health;
- 2000 - NSGC announces a three year plan for replacement of aging video lottery terminals with machines incorporating responsible gaming features;
- 2001-02 - ≈ 3,200 new (and modified) VLTs are rolled out across Nova Scotia that incorporate four new responsible gaming features (on-screen clock, cash display, pop-up reminder of messages of length of time playing, and mandatory cash-out feature), as well as new games, improved graphics and bill acceptors;
- 2002 - NSGF is transferred from Minister of Health to NS Office of Health Promotion.

In 2001/02, approximately $356 million was wagered at the casinos in Nova Scotia representing about 29% of all gambling wagers in the province.

CASINO GAMBLING [9]

There are **two permanent Casino venues (Halifax and Sydney)** operated by Park Place Entertainment on behalf of NSGC. Collectively, these sites offer patrons access to over 1,000 slot machines (Halifax: ≈ 750 slots; Sydney: ≈ 375 slots) and about 44 different tables games (Halifax: 42; Sydney: 12). Casino gambling in the province was first introduced in 1994, with the Halifax Interim Casino opening June 1, 1994 followed by the Sydney Casino, August 1, 1994. Building for the permanent site of the Halifax Casino commenced in February 1998. In October of 1998, the Casino Regulations were amended to permit 24 hour operations, complimentary alcohol service in high-limit areas and the ability to extend credit to non-residents of Nova Scotia. The new Halifax Casino opened in April 2000 including 32,000 square feet, 40 table games, 700 slot machines, new games and new rules of play and introduction of slot machine tokens instead of coins for wagering (coin wagers of less than $5.00 are still accepted at the Sydney Casino).

[9] Nova Scotia Annual Gaming Report 2001-2002, Nova Scotia Environment and Labour, Alcohol and Gaming Authority, Provincial Gaming Activity: Casinos p. 22.

BINGO [10]

In total, approximately $87.2 million was wagered on Bingos in Nova Scotia in 2001/02, primarily charitable Bingos ($85.2 million) accounting for about 7% of all gambling wagers in the province.

Bingos in Nova Scotia are under the jurisdiction of the Nova Scotia Alcohol and Gaming Authority and fall under either charitable Bingo or commercial operations. In 1995, Nova Scotia introduced Bingo Regulations that included a rule prohibiting the issuance of any new commercial Bingo licenses, but did allow existing operators to be "grandfathered" for continued operation. Currently, there are only 3 commercial Bingo operators in the province. Collectively, commercial Bingos account for only about 2% of the total amount wagered on Bingo in Nova Scotia. By contrast, charitable Bingo activity is substantially higher and continues to play an important fundraising role for churches, minor league sports, legions and various other community groups throughout the province. In 2001/02, NSAGA issued approximately 31 single charitable Bingo licenses and about 490 charitable Bingo series licenses, of which 76% reported total wagers of less than $200,000. Media Bingo (TV or radio Bingo) is part of the mix for charitable fundraising with 36 media Bingos in operation throughout the province accounting for total wagers of about $5.6 million or approximately 7% of the total amount wagered on charitable Bingos in Nova Scotia.

CHARITY RAFFLES AND DRAWS [11]

Currently, charitable lotteries in Nova Scotia account for only 1% of all gambling wagers in the province ($12.7 million) and produce about $5.1 million in revenues for charitable purposes.

Similar to charitable Bingos, the Nova Scotia Gaming Authority is also responsible for licensing charity lotteries and raffles. In 2001/02, 660 charitable ticket licenses were issued and reported upon, with the vast majority (617) reporting ticket sales of $50,000 or less. All such lotteries fell under $1 million in collective wagers. However, there were nine charity ticket games that generated sales of over $300,000, collectively achieving total ticket sales of $4.3 million. According to NSAGA's Annual Report 2001-02, charitable lotteries in Nova Scotia continue to be the most efficient way to fundraise with almost 40 cents of every dollar wagered returned for charitable purposes.

[10] Nova Scotia Annual Gaming Report 2001-2002, Nova Scotia Environment and Labour, Alcohol and Gaming Authority, Provincial Gaming Activity: Bingo p. 26.

[11] Nova Scotia Annual Gaming Report 2001-2002, Nova Scotia Environment and Labour, Alcohol and Gaming Authority, Provincial Gaming Activity: Charitable Ticket Lotteries p. 32.

Public accountability and responsibility requires all stakeholders to confront gambling revenue issues in a fair, balanced and informed manner, recognizing the various contributing factors, characteristics and consequences, both positive and negative, of industry expansion and growth.

Gambling Wagers and Revenues in Nova Scotia – 1996/97 versus 2001/02

In order to critically assess any changes in gambling prevalence between the previous measure obtained in 1996 and the current prevalence estimate, it is necessary to have an understanding of relevant market changes or conditions that may be influencing results. One such important consideration is gambling expenditures and revenues generated by gambling activity. Absolute amounts wagered, amounts spent (losses) and net revenue/profitability are important inputs in interpreting prevalence study results and vice versa; prevalence and social research study are important inputs in interpreting market performance. Market figures are accurate, verifiable numbers; cold hard facts that all stakeholders need to know and understand. However, for each dollar of gambling revenue, there are social and human costs that must be weighed in the equation.

For Example: Strong continued growth in gambling revenue, profitability and associated employment can be considered as a positive indicator for gaming operators. Perceptions of these gains alter dramatically if the growth (higher per capita expenditure) is also associated with a decline in general gambling participation rates (fewer people spending more); the disproportionate contribution of small groups of individuals (VLT and Casino gamblers versus Lottery Ticket players); and/or an increase in the proportion of disposable household income spent on gambling among those in the lowest income segments. "Growth" that comes at the expense of potentially vulnerable populations creates other social or related costs, can shift the evaluation of profitability and has implications for the stability, sustainability and ethics of further expansion. Conversely, public health concerns based on anecdotal evidence (or instinctive reasoning) may not be borne out in the research, with some types of profitable gambling posing low risk to gamblers.

TOTAL NS GAMBLING WAGERS (1996/97 VERSUS 2001/02)

In Nova Scotia, gambling wagers have increased by almost 50% since the last gambling prevalence study was conducted in 1996. In 2001/02, Nova Scotians bet $1.2 billion dollars on gambling, the majority of which was allocated to VLTs (47%) and Casino gambling (29%).

Table 1: Total Amounts Wagered on Regulated Gambling in Nova Scotia*[12]

Type of Gaming	1996/1997		2001/2002		Difference	
	$ (000)	%	$ (000)	%	$ (000)	%±
ALC Lottery Sales	172,680	20.5%	204,421	16.5%	31,741	+18.4%
Video Lottery	374,332	44.3%	575,750	46.6%	201,418	+53.8%
Casinos	196,182	23.2%	356,005	28.8%	159,823	+81.5%
Total Bingo	90,385	10.7%	87,254	7.1%	-3,131	-3.5%
Charitable Bingo	86,337	10.2%	85,208	6.9%	-1,129	-1.3%
Commercial Bingo	4,048	.5%	2,046	.2%	-2,002	-49.5%
Charitable Lotteries	10,470	1.2%	12,719	1.0%	2,249	+21.5%
Totals	**844,049**	**100%**	**1,236,149**	**100%**	**392,100**	**+46.5%**

*Note: Refers to total wagered in NS before prizes, expenses, commissions are paid out.

According to the most recent figures released by Statistics Canada and the Nova Scotia Annual Gaming Report (2001–2002), a total of $1.2 billion was wagered on regulated gambling in Nova Scotia. This is an increase of almost 47% over the total amount wagered in 1996 (≈$844 million). The increase is largely due to response towards Casino gambling and Video Lottery. These two types of gambling collectively accounted for 75% of all gambling wagers in the province during fiscal year 2001/02 and 92% of the growth in total amounts wagered between 1996 and 2002. (Table 1)

In contrast, wagering on Bingo has declined, especially for commercial Bingos which dropped by 50% from about $4 million in 1996 to $2 million in 2002. Although wagering on ALC Lotteries increased by 18% compared to provincial wagering at the time of the last gambling prevalence study in 1996, traditional lotteries are now only accounting for 16% of total gambling wagers versus 20% six years earlier.

[12] The figures are obtained or derived based on the wagering activity reported in the Nova Scotia Annual Gaming Report 2001-2002 produced by the Nova Scotia Alcohol and Gaming Authority and do not include First Nations gaming (VLTs), or harness racing wagers.

TOTAL NS GAMBLING REVENUES (1996/97 VERSUS 2001/02)

The amount spent on gambling in Nova Scotia has increased by 35% since 1996.

Average annual gambling expenditures per adult have climbed from about $415 to about $545.

Over half of the increase in expenditures is attributable to VLTs which currently represent about 41% of the total amount spent on gambling in the province.

Due to strong increases in Casino gambling in the province, amounts spent at the casino are now on par with ALC lottery products. Both types of gambling each account for about 25% of total gambling expenditures in Nova Scotia (losses).

Table 2: Total Revenues (Amounts Spent) on Regulated Gambling in Nova Scotia

Type of Gaming	1996/1997		2001/2002		Difference	
	$ (000)	%	$ (000)	%	$ (000)	%±
ALC Lottery Sales	82,727	28.5%	97,784	24.9%	15,057	+18.2%
Video Lottery	105,930	36.5%	162,588	41.4%	56,658	+53.5%
Casinos	74,203	25.5%	102,017	26.0%	27,814	+37.5%
Total Bingo	22,805	7.8%	23,105	5.9%	300	+1.3%
Charitable Bingo	21,628	7.4%	22,468	5.7%	840	+3.9%
Commercial Bingo	1,177	.4%	637	.2%	-540	-45.9%
Charitable Lotteries	4,851	1.7%	6,953	1.8%	2,102	+43.3
Totals	**290,516**	**100%**	**392,447**	**100%**	**101,931**	**+35.1%**

*Note: Refers to total amount spent by adults in NS after prizes are paid out and therefore represents the amount spent or "lost" for each type of gambling activity.

Total amounts wagered are useful for comparing relative gambling activity but these numbers do not represent actual expenditures figures or the "amount lost" by those engaged in the activity. In order to compare amounts spent on each activity over the two measurement periods, it is necessary to examine gambling revenues; **that is, the amount wagered less the amount paid back out in winnings (Table 2).**

In total, the amount spent (losses) on the various gambling activities available in Nova Scotia has increased by 35% since 1996. Based on this information it can be derived that in 1996, the average amount spent on gambling per adult (19 years +) was approximately $415.00 ($290,516/≈ 700,000 adults) as compared to approximately $545.00 in 2001/02 ($392,447/≈ 720,000 adults).

Again, the largest increases were observed for Video Lottery (≈ 54%) and Casino gambling (≈ 38%). Video Lottery alone now accounts for 41.4% of gambling losses in the province ($162.6 million). The amount spent by adults on ALC lotteries ($97.8 million) and Casino gambling ($102 million) are fairly similar, each representing about one-quarter of gambling expenditures in the province. Total losses on commercial Bingo have declined by half and continue to be less than .5% of total gambling expenditures. Expenditures on charitable gambling (Bingos and lotteries combined) account for about 7.5% of all amounts spent and are collectively generating about $30 million dollars in sales (less prizes paid out).

TOTAL NS NET PROVINCIAL REVENUES (1996/97 VERSUS 2001/02)

Table 3: Net Revenue to the Province of Nova Scotia by Each Type of Gambling Activity

Type of Gaming	1996/1997		2001/2002		Difference	
	$ (000)	%	$ (000)	%	$ (000)	%±
ALC Lottery Sales	41,083	32.1%	46,048	25.0%	4,965	+12.1%
Video Lottery	68,980	53.8%	111,513	60.4%	42,533	+61.6%
Casinos	16,380	12.7%	25,416	13.7%	9,036	+55.2%
Total Bingo	1,581	1.2%	1,396	.8%	-185	-11.7%
Charitable Lotteries	112	.1%	115	.1%	3	+2.7%
Totals	**128,135**	**100%**	**184,488**	**100%**	**56,353**	**+44.0%**

*Note: Refers to total amount of net revenue to the province of Nova Scotia after prizes, operating expenses, retailer commissions and other associated costs are removed.

Since 1996, there has been a 44% increase in net gambling profits in the province of Nova Scotia.

VLTs continue to be the most profitable form of gambling, contributing about 60% of the net provincial gambling revenue.

There has been strong growth in Casino profitability (55%), with a moderate increase of about 12% observed for ALC lottery products. Despite generating similar levels of expenditures (losses) in the province, Casino gambling only contributes about half the net revenues received from ALC lotteries (13.7% versus 25%).

Differences in operating costs, licensing agreements, retailer commissions and other associated factors influence the amount of revenue returned to the province by the various types of gambling activities. This information is an important consideration in terms of cost-benefit considerations in assessing the impact of various forms of gambling and the implications of any changes in the product. Therefore, net revenue contribution was examined to assess any changes in profitability since 1996.

In 1996, about 43% of gross gambling revenue (amount after prizes are paid out) was taken in as revenue by the province and in 2002 this proportion climbed to 47%. This means that in 2002, almost $184.5 million went to provincial coffers with about $208 million paid out in operating costs, retailer commissions or private profits. Analysis regarding economic benefits in Nova Scotia derived from gambling in terms of operating costs, employment and other associated industry activity is beyond the goals of the current overview. However, it can be assumed that a significant proportion of the $208 million in operating costs paid out from regulated gambling in the province is making a contribution to the provincial economy. Moreover, almost half of the revenue generated is directly contributed to the province as income. In 1995/96 Gaming Corporation profits accounted for 4.9% of all provincially sourced revenue in Nova Scotia (exclusive of federal sources of payments, including equalization or transfer payments)[13]. In 2001, gambling contributed 5.6% of provincially sourced revenues, exceeding the amounts taken in by Corporate Income Tax (5.5%), Liquor Commission profits (4.5%), and the Tobacco Tax (2.5%) in the province.[14] Therefore, gambling in Nova Scotia is a significant source of provincial revenue.

[13] Province of Nova Scotia , Public Accounts, Schedule of Revenue for the Fiscal Year Ended March 31, 1996 p. 15.

[14] Province of Nova Scotia , Public Accounts 2000/01, p. 61.

Based on the figures reported by the Nova Scotia Alcohol and Gaming Authority in the Annual NS Gaming Reports, for 1996/97 versus 2001/02, it can be estimated that there was a 44% increase in profits or net revenues to the province. Video Lottery accounts for 75% of total growth in net provincial profits, bringing in approximately $42.5 million more than was the case in 1996. While substantial growth was also observed for net revenue contribution from Casino gambling (55%), the absolute increase of $9 million represented only 16% of the total gain in gambling revenue identified.

Collectively, Bingo and charitable lotteries bring in less than 1% ($1.5 million) of provincial gambling revenues but are making significant contributions to not-for-profit charitable and community groups (approximately $5.1 million).

In general, Video Lottery is Nova Scotia's most profitable form of gambling, contributing $111.5 million to provincial revenues in 2001/02 which represents 60% of total gambling profits to the government. Compared to ALC lotteries, Casino gambling in Nova Scotia generates higher amounts wagered (bets) and similar amounts spent (losses) yet contributes only half the net revenue received from ALC lotteries (13.7% versus 25.0%). Regardless, net revenues for Casino gambling in Nova Scotia have grown substantially over the past 5-6 years ($9 million; 55% increase) whereas lottery net revenues have registered moderate increases of about $5 million (12% increase).

Given the increases in gambling wagering and profitability since the last prevalence study conducted in Nova Scotia (1996), it is important to obtain reliable information to assess the "human cost" of these returns in terms of participation rates, gambling behaviours and outcomes, as input to on-going planning and management of gambling in the province.

Methods

Design Considerations – Prevalence Studies

For simply obtaining an overall estimate of problem gambling in a population, research design does not appear to be a critical factor. However, in order to use study results to reliably track changes associated with gambling prevalence, to delineate and assess risk for problem gambling, to identify the impacts of policy or practices, or to interpret the estimates, research design, methodology and data quality are of paramount concern. Research design and methodology that fail to provide the necessary rigor at best pre-empt the opportunity to examine such issues, at worse provide misleading information.

There are over 200 reported prevalence studies of problem gambling in the U.S. and Canada (Shaffer, Hall & Vander Bilt, 1997; Shaffer & Korn, 2002). Several problems with estimates derived from such studies have been identified that may serve to over- or under-estimate prevalence rates. Traditionally, prevalence studies in the general population tend to rely upon telephone methodology. Among limitations associated with such an approach are concerns that low response rates compromise the ability to reach gamblers at home (Lesieur 1994, Shaffer & Korn, 2002). Countering these negative biases may be an upward bias whereby respondents are more likely to exaggerate the incidence of negative behaviours in an anonymous interview situation. Moreover, inconsistent response rates among certain groups in the population may also lead to a biased skew of the sample towards those who are easier to reach by telephone (e.g., women versus men) and/or are more interested in the topic under examination ("gamblers" versus "non-gamblers"). Few of the criticisms surrounding sampling for prevalence studies have been studied directly. As a result, it is difficult to judge the impact of these competing factors on the accuracy of prevalence measures.

Despite varied techniques for reporting response rates and various well-reasoned arguments as to "why" low response rates will have minimal impact on results, in almost all cases it is impossible to either test the veracity of these assumptions or to determine how "representative" the data is. This is of particular concern if the data will be used as a standard for monitoring and assessing changes over time. The stability of problem gambling prevalence measures, with almost uniformly low response rates, using various types of prevalence measures (e.g., SOGS, DSM IV, CPGI) and varying methodology has led some researchers to conclude that disordered gambling *"is a robust and reliable phenomenon…that is impervious to some of the weaknesses inherent in many of the research designs reviewed"* (Shaffer, Hall, & Vander Bilt, *Estimating the Prevalence of Disordered Gambling in the United States and Canada: a Meta Analysis*, Harvard Medical School, Division on Addiction, 1997 p. 61). Essentially, Shaffer and his colleagues found that studies utilizing higher quality methodology standards did not generate prevalence estimates that differed in any meaningful way from estimates obtained in poor quality studies. Thus, for simply obtaining an overall estimate of problem gambling in a population, methodology does not appear to be a critical factor. However, in using study results to reliably track changes associated with gambling prevalence, to delineate and assess risk for problem gambling, to identify the impacts of policy or practices, or to interpret the estimates in a meaningful manner, data quality and methodology are of paramount concern.

Another source of error that has been overlooked in the literature occurs when sampling is based on interviewing one adult per household and the estimates are not then adjusted to compensate for this bias in sampling.

Advantages of Random Household Sampling:

- **Controls for self-selection bias**
- **Controls for over-sampling of single adult households**
- **Ensures random representative sample of all adults**
- **Allows response rates to be calculated and monitored within specific population segments known to be associated with differences in gambling (e.g., age and gender)**
- **Allows for analysis at a household as well as an individual level**

Prevalence studies tend to use multistage sampling, often with the aid of a random number generator, frequently selecting the person with the next birthday to randomize selection at the household level. With the number of adults in a household ranging from one to more than ten, not all adults in the households have an equal chance of being selected for the interview. Hence, individuals who live alone are likely to be over-represented in traditional prevalence studies. With the exception of the New Brunswick Seniors Prevalence Study (Schrans, Schellinck, Grace & Walsh, 2002) there is no evidence of any other prevalence study in the literature that samples all adults in the household, or compensates for the resulting bias at the analysis stage (under-representation of adults living in larger households, and over-representation of those living in single and double adult households)[15].

In a recent paper presented at the Australian National Association of Gambling Studies 2002 Conference (Schellinck & Schrans, May 2003)[16] it was found that if a single adult is interviewed per household using standard sampling techniques (e.g., quota or randomization using next birthday) estimates of prevalence would be inflated (higher than actual) by 23%.

Currently in Nova Scotia, those living alone (single adults) account for approximately 25% of households, yet they only represent approximately 13% of total adults living in the region. When one adult is randomly selected from a household, the individual living in a single-person household is always selected for participation. Those living alone differ significantly from those living in multi-adult households, especially in terms of gambling behaviours, attitudes, and outcomes. Over-sampling this group can have significant influence on results, artificially inflating the impact of 13% of the population by a factor of 2 (≈25% of the sample). The remaining sample is based on the selection of only one adult out of multi-adult households, largely subject to convenience (e.g., those most easily reached and likely to take part). There is no systematic method of gathering or assessing participation (e.g., response rates) for all qualified respondents on the sampling frame in order to examine the potential for bias in the results. Therefore, resulting profiles of gamblers are based on the characteristics of only an unknown portion of those who are qualified to take part. Weighting the sample to adjust for over- or under-representation of market characteristics cannot compensate for those "missing" in the data.

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[15] For exception see the Productivity Commission (1999) Australia's Gambling Industries: Inquiry Report (No. 10), Appendix F National Gambling Survey.

[16] Schellinck T., Schrans T., (2003) Surveying All Adults in a Household: The potential for reducing bias in prevalence studies and opportunity to study households with more than one Problem Gambler. *Journal of the National Association for Gambling Studies*, Vol 15 (1), pp. 51-60.

An additional shortcoming associated with typical sampling procedures for prevalence studies, is that results cannot be used to calculate and examine the prevalence of problem gambling at a household level. This has implications from a community health perspective in assessing the impact of problem gambling and in determining service and support needs. For example, the 1997-1998 NS VL Regular Players Survey conducted by Focal Research for the Nova Scotia Department of Health, sampled all Regular VL Players in each randomly selected household. It was found that about 30% of regular VL gamblers are living in a household in which at least one other regular player resides. If a Problem VL Gambler was living with another regular VL player, in almost half the cases (43%) both individuals were involved in problem gambling for video lottery (Schellinck & Schrans, 1998).[17] For input to effective strategy development, planning and management, there is a need to obtain information at a household level as well as at the individual level in order to examine and understand the impact of problem gambling on household units and the community at large.

The study was designed to obtain a reliable database of gambling related information for current and future research needs of the Nova Scotia Office of Health Promotion.

The framework used establishes a reliable vehicle for on-going monitoring that minimizes the effects of sampling error and methodology on study results and maximizes the utility of the data as an information resource.

Methodological rigor and analytical precision are becoming more critical prevalence study requirements as stakeholders seek to use this information for proactive decision-making. In many jurisdictions, at best, goals have been set to reduce risk and problem gambling rates (e.g., incidence rates) and, at least, not to further contribute to problems. Measures need to be stable and sensitive enough to accurately detect changes that occur, that while small at a total population level are significant from a strategic planning perspective (e.g., 25% reduction in problem gambling = .5% drop in population estimate). Increased sample sizes are part of the issue, but it can be cost prohibitive to obtain large enough samples to accurately detect and track changes. However, the additional cost in conducting large scale random population studies can be offset by ensuring the data has utility beyond accurately "counting cases".

To address some of the shortcomings identified in methodology used for prevalence studies in Nova Scotia and elsewhere, a new approach was adopted for the 2003 Nova Scotia Gambling Prevalence Study.

[17] 1997/98 Nova Scotia Regular VL Players Survey, Addiction Services, Nova Scotia Department of Health, Focal Research Consultants, Section 3: Problem Player Analysis, pp. 3-34.

Research Design

The framework for the study was based on a two phase telephone survey with 2,800 adults, 19 years of age or older, living in randomly selected households throughout the province of Nova Scotia. To comprehensively address the identified goals and objectives, the research design for the study consisted of the following methodology:

- generation of a sampling frame of randomly selected households throughout Nova Scotia (Total numbers = 2,600; Total eligible households identified n=2,198);
- administration of a Household Screen that obtained the age and gender for all people (permanent residents of Nova Scotia) living in each randomly selected household (n=1,733, response rate = 79.8%);
- generation of a sampling frame for all qualified adults (19 years of age or older) identified as living in each randomly selected household (n=3,373);
- administration of the study questionnaire to all adults identified in each household (census sampling for all adults identified in randomly selected households: n=2,800, response rate = 85.1%)[18];
- overall measure of gambling prevalence by using the Canadian Problem Gambling Index (CPGI) (Problem Gambling Severity Index (PGSI) - nine scored items) to identify general risk for problem gambling and problem gambling prevalence;
- systematic independent measurement of gambling involvement by type of gambling activity (18) available to adults (19 years of age or older) in Nova Scotia, including measurement of self-reported problems by type of gambling ;
- pre-test and preliminary analysis of both household screen (n=212) and respondent questionnaire (n=66);
- 18 hour (3 day) mandatory training course for all project interviewers including; sensitivity training, interviewer protocols, sampling, screener, gambling activity grid and questionnaire briefing, problem gambling referrals and services;
- maximization of study response rates through sample control, interviewer training and protocols, and quality control procedures;

[18] According to professional research standards (PMRS) the response rates are calculated based on the number of cooperative contacts ÷ total eligible adults. In this case, cooperative contacts include 70 respondents that were disqualified during the survey due to non-permanent residence in the province or because they are living away from home during the period of data collection (military assignment, hospital, university). No numbers are dropped from the response rate calculation regardless of the number of callbacks placed to reach "no answers". However, disqualified respondents are considered to have been screened. The response rate = (2,870 ÷ 3,373) 85.1% rather than (2,800 ÷ 3,373) = 83.0%. Regardless of method used, the response rates for the study are high and ensure the data is representative and generalizable.

- data entry, monitoring, and analysis of household screen data;
- tracking and management of study response rates by age and gender throughout the study;
- 100% editing of completed questionnaires by senior supervisory personnel;
- random 25% verification of household screen information (n=542);
- random 25% re-contact of survey respondents for independent validation of survey responses (standard quality control procedures; n=746);
- additional re-contact of respondents as required for remedial action including clarification, missing information, data inconsistency (n=733).

Questionnaire Design

The 2003 questionnaire was designed by senior researchers at Focal Research Consultants Ltd. in consultation with NSOHP. One of the goals of the current study survey was to improve upon the utility of tracking measures in the survey, while ensuring sufficient comparability for examining gambling prevalence over the three study measures (1993, 1996, and 2003). New and current issues related to gambling in Nova Scotia were also identified and incorporated into questionnaire design.

Two survey instruments were produced:

- **Household Screen** (Appendix A)
    - To determine household composition, including the total number of people living in the household; the number of children (males/females) under 19 yrs of age; number of adults age 19 years of age or older by gender and age category (19-24 years, 25-34 years, 35-44 years, 45-54 years and 55 years or older).
- **2003 Prevalence Study Questionnaire (Participant Survey)** (Appendix C)
    - **Part A – Gambling Involvement Grid** measuring detailed play behaviours for 18 types of gambling; administered using a structured Interviewer Booklet (Appendix B)
    - **Part B + - General Gambling and Problem Gambling Measures and Correlates** including perceptions, attitudes, CPGI scored items, exposure to problem gambling, awareness and use of support services, other substance use, general health, demographics.

The questionnaire was divided into the following six sections:

Section	Description
A. Involvement in Gambling	Perception of activity as "gambling", trial (ever played), regular play (now or past), frequency of play, average expenditure, average length of time playing, impact of smoking ban on time/money spent playing, consumption of alcoholic beverages during play, play in the past month, ever experienced problems with time/money spent playing and problem resolution for the various gambling activities (including unregulated gambling)
B. Gambling Statements	Gambling behaviours, motivations and opinions, as well as personal, domestic and social implications of gambling
C. Current Problem Gambling	The Canadian Problem Gambling Index (CPGI), use of alcohol and/or drugs while gambling, use of alternative sources of money for gambling
D. Gambling Support Services	Awareness of assistance/services for Problem Gamblers and/or their families, personal knowledge of Problem Gamblers in Nova Scotia, relationship to Problem Gamblers, access of support services for problem gambling
E. Other Related Issues	Prevalence of use and problems with smoking, drinking alcoholic beverages, prescription medications, non-prescription/illegal recreational drugs, personal problems and role of gambling, general health perceptions
F. Demographics	Age, gender, mother tongue, marital status, household composition, education, employment status, household income, influence of religion, area of residence

Formal pre-testing was undertaken from April 1-10, 2003 (Household Screen: n=212; Participant Survey: n=66). Data collection for the project was conducted from April 11, 2003 through to June 13, 2003. Final questionnaire length ranged from 14 minutes to 60 minutes with an average length of 22 minutes per completed survey. Given the complexity of the design, random quality control checks were conducted throughout the study on 25% of all completed household screens (n=542) and participant surveys (n=746) to ensure established protocols were effective in obtaining the desired information. An additional 26% of respondents (n=733) were re-contacted by senior level interviewers for clarification or remedial attention on specific items identified during the data cleaning process (July 1 – August 15, 2003).

Sampling

Population Estimates – Nova Scotia Adults and Households[19]

In total, it can be estimated that there are approximately 740,000 adults, aged 19 years or older, living in Nova Scotia, with the following characteristics relevant for sampling:

- Approximately 97% of adults (≈ 718,000) are living in private households in the province.
- On average, there are approximately 1.9 adults per private household representing a total of 378,508 households in the province.
- The vast majority of Nova Scotians are living in family households (74%).
- The primary language spoken in the home is English (96%), with only 2% of the population identified as francophone and 2% using other languages.
- Average household incomes are estimated at approximately $47,400.00 although there are regional variations in income across the province.

The initial sampling frame for the Nova Scotia 2003 Gambling Prevalence Study included all residential telephone numbers in Nova Scotia. Focal Research currently uses customized software from ASDE Inc. of Hull, Quebec for sampling purposes. This software, Canada Survey Sampler, is a geographically stratified random sampling program incorporating both listed and unlisted telephone numbers. The software has been further customized to accommodate Focal's strict sampling procedures.

The sampling was conducted over two phases:

1) Household Screen

A random sample of households was first generated in order to create a sampling frame for all adults in each household. The parameters for generating the Household Sample were based on Nova Scotia population statistics (presented above), assuming a minimum response rate of 70%. The data for each household screen were entered into a database and identified all qualified adults in the household. The database of adults in the household were assigned a household id number for tracking purposes and the listing was used to create the sampling frame for the survey of all adults living in the randomly selected households.

2) Respondent Survey

Data collection for the Respondent Survey was conducted concurrently with the Household Screen. The databases were up-dated daily to reflect current sample characteristics and completion rates. All adults identified in the household screen were directly contacted to

[19] FP Markets: Canadian Demographics 2002, 2003 Population Estimates. Toronto: Financial Post DataGroup, National Post Company.

complete a questionnaire. Respondent status was tracked for each adult identified in the household screen.

Response Results

The following project call disposition report uses the Professional Marketing Research Society's (PMRS) Standard Record of Contact for telephone studies.

Table 4: 2003 Nova Scotia Gambling Prevalence Study Call Disposition Report – Sampling Frame (Household Screen)

		(n)
Total Random numbers Selected for Sample		**2,600**
Invalid Sample	Not In Service	251
	Ineligible (Non-residential number)	151
	Total	***402***
Non-Contacts	No Answer (unlimited attempts)	42
	Respondent Not Available	32
	Busy	---
	Answering Machine	36
	Illness/Language Barrier	22
	Total	***132***
Refusals	Household	265
	Known Qualified	67
	Total	***332***
Co-operative Contacts	Disqualified (non-residents of NS)	22
	Completed Household Screens	1,733
	Total	***1,755***

Identification of Sampling Frame:

- **1,733 Randomly selected households (response rate = 79.8%)**
- **on average, 2 adults per household identified**
- **total adults identified for sample = 3,373**

Total Unique Numbers Attempted = 2,600 Households

Total Eligible Numbers = Total Unique Numbers Attempted-Invalid Sample = **2,198 Households**

Total Asked = Refusals + Disqualified + Completed Surveys = 332 + 22 + 1,733 = **2,087 Households**

Response Rate (Households) = Co-operative Contacts ÷ Total Eligible Numbers
= 1,755 ÷ 2,198 = **79.8%**

Refusal Rate (Households) = Refusals ÷ Total Asked = 332 ÷ 2,087 = **15.9%**

RESPONSE RATES ACHIEVED:

- **79.8% of all eligible NS households on the sample completed a Household Screen. This provided a representative sampling frame for NS adults living in households.**
- **85.1% of all eligible adults on the sample successfully participated in the study.**
- **Between 82.3% and 87.3% of eligible adults within each gender/age category took part in the study (e.g., 86.8% of all identified NS males between 19 and 24 years of age successfully participated in the Prevalence Study).**
- **For the study overall, 85.1% of adults in the 79.8% of households took part in the study, yielding an overall response rate of 67.9%.**

Table 5: 2003 Nova Scotia Gambling Prevalence Study Call Disposition Report – Respondents (Adults on Sample)

		(n)
Total Adults Identified on Household Screen		3,373
Non-Contacts	No Answer after 7+ Attempts	136
	Total	***136***
Refusals	Known Qualified	369
	Total	***369***
Co-operative Contacts	Disqualified	68
	Completed Interviews	2,802
	Total	***2,870***

Total Eligible Adults On Sampling Frame = 3,373 Adults

Total Asked = Refusals + Disqualified + Completed Surveys = 369 + 68 + 2,802 = **3,239 Adults**

Response Rate (Adults) = Co-operative Contacts ÷ Total Eligible Adults = 2,870 ÷ 3,373 = **85.1%**

Refusal Rate (Adults) = Refusals ÷ Total Asked = 369 ÷ 3,239 = **11.4%**

Table 6: Response Rates For Adults By Gender & Age Categories

	MALES	FEMALES	TOTAL ADULTS
19 – 24 years	86.8%	85.6%	**86.2%**
25 – 34 years	82.3%	87.3%	**84.9%**
35 – 44 years	85.5%	86.3%	**86.0%**
45 – 54 years	85.8%	83.4%	**84.5%**
55+ years	84.2%	85.0%	**84.6%**
TOTAL	**84.8%**	**85.4%**	**85.1%**

OVERALL PROJECT RESPONSE RATE:

= Response rate for adults among participating households

= 85.1% (% of qualified adults) x 79.8% (% of qualified households)

= **67.9%**

Data Collection

The data were collected from April 11 to June 13, 2003. Data collection was fully supervised and conducted from Focal Research Consultants' centralized data collection facility in Halifax, Nova Scotia. Each survey was 100% edited for accuracy and completeness. Random quality control checks (participant re-contacts by supervisory staff) were conducted on a minimum of 10% to 15% of each interviewer's surveys. Response rates were maximized by controlling the release of phone numbers to the interviewers and requiring unlimited callbacks to be made on the numbers released, over various days of the week and times of day.

Data entry occurred concurrently with data collection to maximize turn-around and allow for preliminary data checks/reviews. A minimum 15% manual quality control check was performed on the entered surveys. In addition, the data were submitted to customized data cleaning programs, which incorporate logic checks as well as out of range value checks.

Measurement of Problem Gambling

Problem Gambling Measurement:

1. CPGI
2. Self-reported problems with time or money spent gambling (PGTM)

In the 1993 and 1996 surveys of gambling and problem gambling in Nova Scotia, the South Oaks Gambling Screen (SOGS) served as the measurement instrument for problem gambling. The use of SOGS had predominated over the past 15 years such that it had become the standard instrument largely due to convenience and the absence of a credible alternative. This broad, universal application has encouraged continued reliance on the measure, primarily because it facilitates comparisons over time and among prevalence rates obtained in other jurisdictions, both nationally and internationally.

The use of SOGS in a general population setting has come under criticism primarily because the instrument is grounded on observations from a clinical population (Dickerson & Baron, 2000, NSDOH & Focal Research, 1998; Abbott & Volberg, 1999; Schaffer et al, 1997; Volberg & Banks, 1990). The measure has not been validated in general population surveys, for use in a non-clinical setting. SOGS was also developed prior to the introduction and widespread accessibility of various gambling options such as electronic gambling machines. As a result, the unique aspects of some types of gambling may not be accounted for in screening. SOGS also suffers from poor specificity due to the inclusion of both dysfunctional and non-dysfunctional diagnostic criteria. SOGS, therefore, picks up (diagnoses) a significant proportion of false positives, a problem that is exacerbated outside of the clinical setting. Finally, the value of using SOGS in generating useful social and public health policy has also been called into question, and it has been suggested that future research for problem gambling move towards a more practical assessment of disordered gambling (Schaffer et al, 1997; Dickerson & Baron, 2000).

The Canadian Problem Gambling Index (CPGI)

The CPGI is a new measure that stems from a collaborative effort among the Canadian Provinces to validate and put into practice a standard instrument for measuring problem gambling in the Canadian general population. In 1997, the Inter-Provincial Task Force on Problem Gambling commissioned the Canadian Centre on Substance Abuse to conceptualize and develop the project. The resulting Canadian Problem Gambling Index (CPGI) was validated in 2001 (Ferris & Wynne, 2001) and found to have good reliability (coefficient alpha =.84; correlation coefficient=.78). The measure has been designed to capture gambling involvement, behavioural indicators of problem gambling, cognition related to problem gambling, consequences of problem gambling, and the environmental factors and correlates of problem gambling. The full survey instrument consists of 30 items assessing gambling participation, problems, correlates and demographics. Identification of risk for problem gambling is assessed using 9 scored items (Problem Gambling Severity Index – PGSI) on the CPGI consisting of the following:

The 9 scored items of the CPGI are the primary measures used to report on the prevalence of problem gambling in the 2003 Nova Scotia Gambling Prevalence Study.

#	Thinking about the past twelve months.....
1	Have you bet more than you really could afford to lose?
2	Have you needed to gamble with larger amounts of money to get the same feeling of excitement?
3	When you gambled, did you go back another day to try and win back the money you lost?
4	Have you borrowed money or sold anything to get money to gamble?
5	Have you felt that you might have a problem with gambling?
6	Have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?
7	Have you ever felt guilty about the way you gamble, or what happens when you gamble?
8	Has gambling caused you any health problems, including stress or anxiety?
9	Has your gambling caused any financial problems for you or your household?

Each question has four response options including never (scored as 0), sometimes (scored as 1), most of the time (scored as 2), and almost always (scored as 3). To score the CPGI, the nine items are summed to arrive at a total score ranging from 0 to 27, and interpreted using the following risk continuum:

CPGI Risk Continuum

CPGI Score	Risk Categories	
	Original Labels	Revised Labels
0	Non-Problem	No Risk
1-2	Low Risk	At Risk
3-7	Moderate Risk	Moderate Problem
8+	Problem Gambling	Severe Problem

CPGI SEGMENTS

- Non-Problem
- Low Risk
- Moderate Risk
- Problem Gambling

In the Ontario Prevalence Study (Wiebe, Single & Falkowski, 2001) and, more recently, the British Columbia Prevalence Study (Volberg, R.A. & Ipsos-Reid, 2003) the original labels for the four gambling levels identified in the CPGI (Ferris & Wynne, 2001) were modified to reflect differing theories about the progression of gambling problems as measured by the new screen. (Refer to Section 2: Comparative Gambling Prevalence – Canadian Jurisdictions Using the CPGI, p2-5 for full discussion)

This approach has set a new standard for positioning responses in other provinces. Continuing debate is expected in assessing the efficacy of the approach but, in the interim, the results in Nova Scotia are also examined using the modified labels for comparative purposes.

According to the Canadian Problem Gambling Index: User Manual (2001), respondents in each risk category will have the following characteristics[20]:

NEW CPGI LABELS

- No Risk
- At Risk
- Moderate Problem
- Severe Problem

Non-Problem Gambling: Score of 0

Respondents in this group will have responded "never" to all of the indicators of behavioural problems, although they may well be a frequent gambler with heavy involvement in terms of time or money. The "professional" gambler would fit into this category. This group will not have experienced any adverse consequences of gambling, nor will they agree with the distorted cognition items.

Low-Risk Gambling: Score between 1 and 2.5

Respondents in this group will have responded "never" to most of the indicators of behavioural problems, but will have one or more "sometimes" or more often responses. This group likely will not have experienced any adverse consequences from gambling.

Moderate-Risk Gambling: Score between 3 and 7.5

Respondents in this group will have responded "never" to most of the indicators of behavioural problems, but will have one or more "most of the time" or "always" responses. This group may or may not have experienced any adverse consequences from gambling.

[20] Ferris, J., and Wynne, H. (2000), Validating the Canadian Problem Gambling Index: Report on the Pilot Phase of Testing, January 10, 2000. Canadian Centre on Substance Abuse.

Problem Gambling: Score between 8 and 27

Respondents in this group are those who have experienced adverse consequences from their gambling, and may have lost control of their behaviour. Involvement in gambling can be at any level, but it is likely to be heavy. This group is more likely to endorse the cognitive distortion items.

A further and significant strength of the CPGI is that it has been presented as having a SOGS conversion factor that facilitates meaningful comparisons with other SOGS-based studies. This suggests that data collected from earlier SOGS-based studies continues to have meaning. At the same time, using the CPGI provides an opportunity to test and benchmark the new Canadian instrument in Nova Scotia without confounding the ability of the study to systematically track prevalence over time.

The Problem Gambling Triangulation Measure (PGTM)

The PGTM was developed and tested by Focal Research for use in the 1997/98 Nova Scotia Video Lottery Players Survey. It is grounded in the experiences and psychopathology of gamblers and, therefore, is considered to have excellent face and content validity. The measure was designed after conducting primary research with both social Non Problem Gamblers and those involved in heavy or problematic play. The measurement properties of the PGTM have been assessed and the measure has been found to have very high reliability (Cronbach's Alpha consistently equal to or higher than 0.80). The convergent validity of the measure was verified in the 1997/98 Nova Scotia Video Lottery Players Survey. Problem VL Gamblers consistently scored significantly higher than Non-Problem VL Gamblers on a number of related measures such as patronage at video lottery locations, video lottery expenditure, other gaming expenditure, length of time playing video lottery, chasing behaviour, attitudes and outcomes.

The PGTM has also been validated against the DSM-IV in the 2000 Regular Video Lottery Players Study (Schrans, Schellinck & Walsh, 2000) and found to have a significant level of agreement in that 141 of 181 gamblers were classified similarly.

The inclusion of the PGTM in the 2003 Nova Scotia Gambling Prevalence Study allows for ongoing testing and validation of the measure. One component of the problem identification developed by Focal Research is based on individual's self-reports of gambling problems. In the current study, this was expanded to include a self-reported measure of problems with time or money spent for each one of the gaming activities available in Nova Scotia.

Statistical Analysis

In the current report, descriptive statistics were used to analyze the data from the 2003 NS Gambling Prevalence Survey including:

- Chi Square tests for distribution comparisons

- Z-tests for proportions (and adjusted for small sample sizes)
- Z-tests and/or T-tests for mean comparisons
- Mann-U-Whitney tests for medians

Due to sampling techniques used and the response rate achieved, it was unnecessary to weight the data to reflect population statistics. For all analyses, Focal Research used a 95%+ confidence level. However, we believe there is a need to minimize Type 1 (reporting there is a difference when there is not) as well as Type 2 errors (reporting there is not a difference when there is). Therefore, in some cases, differences significant at the 90% confidence interval ($p \leq .10$) are noted in the text to gain additional knowledge and insight.

All statistical analyses were conducted using SPSS version 11.5.

SEGMENTATION ANALYSIS

- Shared Service Area
- Gender
- Household Income
- Gambling Status (Regular, Casual, Non)
- Age Category
- Self-Declared Gambling Problems (Current Self-Declared Problem vs. Non-Problem Gamblers)
- CPGI Classification

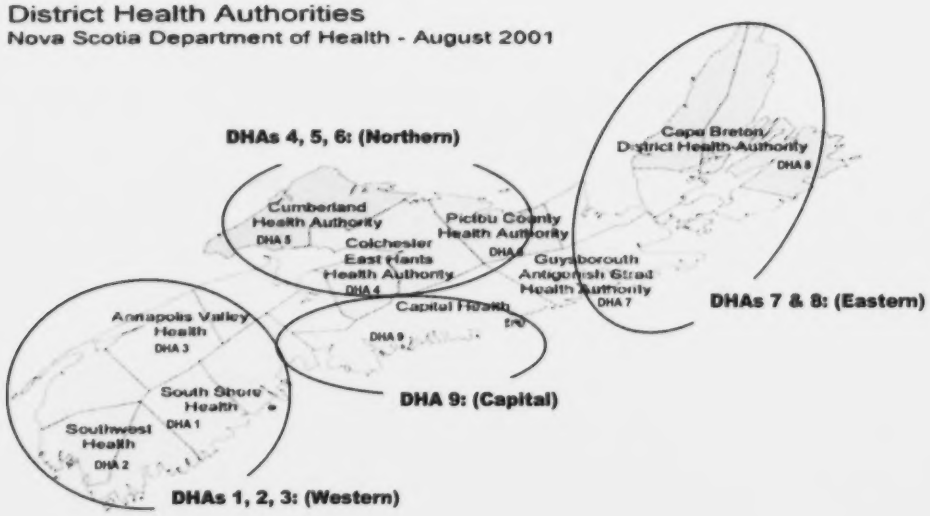
Segmentation Analysis

In discussion with NSOHP, there were seven segmentation analyses conducted in the current study. Four are demographic segmentations, including Addiction Services Shared Service Areas (based on District Health Authorities' geographic regions in the province), gender, age category and annual household income. These primary segmentations are discussed in the current report. Gambling status (based on the respondents' level of involvement in gambling over the past year), Self-Declared Gambling Problems (considers only past year gamblers – Self-Declared Problem versus Non-Problem Gambler), and CPGI classification category comprise the remaining three segmentations.

Two sets of data tables produced for the report provide the results for all survey measures by the seven segmentations and are presented in Appendix E - Data Tables for reference purposes (Appendices are under separate cover).

Shared Service Area

District Health Authority in 2002	DHA #	Shared Service Area in 2002	Health Region in 1998
South Shore	1	DHAs 1, 2 & 3	Western
South West Nova	2		
Annapolis Valley	3		
Colchester East Hants	4	DHAs 4, 5 & 6	Northern
Cumblerland County	5		
Pictou County	6		
Guysborough Antigonish Strait	7	DHAs 7 & 8	Eastern
Cape Breton	8		
Capital Health	9	DHA 9	Capital



Margins of Error

It is important to keep in mind that the figures reported in the current study are point estimates only. Depending upon the size of the sample, the amount of variance in the data (e.g., standard deviations for mean estimates) and/or the proportion of the sample indicating a particular response, actual results will fall within a specific range around each point estimate referred to as the margin of error.

The following table presents the population estimates and margins of error for the total sample and for each of the primary segments. As sample sizes for various sub-segments decline, the margin of error surrounding the point estimates increases. This is automatically accounted for in all tests of significance conducted among various groups using a 95% level of confidence ($p \leq .05$).

The margins of error presented in the table are conservative, based on the assumption that the true population value falls at the 50% level. The 50% level is often chosen when the true population estimate is unknown as it represents the point at which the margin of error will be the greatest. As the true value moves away from the 50% level, there is greater accuracy in projecting results to the population and the margin of error surrounding the point estimate becomes smaller.

The figures reported in the current study are point estimates. Actual figures will fall within a specified range around each point estimate referred to as the margin of error.

Table 7: Margins of Error For Primary Report Segmentations

Population Segment	Population (19 years +)*	Percentage of Population	Unweighted Sample Size	Percentage of Sample	Margin Of Error (95% C.I.)
TOTAL ADULTS	**≈734,000**	**100%**	**2800**	**100%**	**±1.85**
SHARED SERVICE AREAS (HEALTH DISTRICTS)					
DHA 9 (Capital)	≈294,000	40.0%	1185	42.3%	±2.84
DHAs 7 & 8 (Eastern)	≈140,000	19.1%	523	18.7%	±4.28
DHAs 4, 5 & 6 (Northern)	≈137,000	18.7%	492	17.6%	±4.41
DHAs 1, 2 & 3 (Western)	≈163,000	22.2%	600	21.4%	±3.99
GENDER					
Male	≈350,000	47.7%	1325	47.3%	±2.69
Female	≈384,000	52.3%	1475	52.7%	±2.55
INCOME**					
<$30,000	≈175,000	NA	668	23.9%	±3.78
$30,000-$59,999	≈286,000	NA	1008	36.0%	±3.08
>$60,000	≈229,000	NA	873	31.2%	±3.31
AGE					
19-24 years	≈76,000	10.4%	248	8.9%	±6.21
25-34 years	≈136,000	18.5%	436	15.6%	±4.69
35-44 years	≈148,000	20.2%	673	24.0%	±3.77
45-54 years	≈138,000	18.8%	589	21.0%	±4.03
55-64 years	≈106,000	14.4%	411	14.7%	±4.82
65 years or older	≈130,000	17.7%	443	15.8%	±4.65

*Source: Financial Post Data Group (2003). Canadian Demographics 2003 Toronto: Financial Post
**Note: Actual population figures for household income levels were not available. Estimates reflect projections based on Percentage Of Sample in order to calculate margins of error.

Report Format

To assist NSOHP in using the information obtained in the 2003 Nova Scotia Gambling Prevalence Study, the current report has been organized into four sections based on the objectives of the project.

SECTION 1

Introduction

Section 1 provides full background information on the objectives, provincial gaming industry profile, methodologies, project assumptions, sampling results, and analysis rationale.

SECTION 2

Gambling Prevalence in Nova Scotia

Section 2 provides a summary of current prevalence for problem gambling in Nova Scotia and by the primary segmentations; trend analysis of gambling prevalence in Nova Scotia (1993, 1996, 2003); Canadian Gambling Trends 1992-2002; Cross-jurisdictional comparison of gambling prevalence

SECTION 3

2003 Measure of Gambling and Problem Gambling in Nova Scotia

Section 3 provides an overview of gambling behaviours, attitudes, awareness and other related measures in Nova Scotia; participation in gambling, past year gambling patterns, risk for problem gambling by gambling activity, gambling attitudes, behaviours and other correlates, exposure to problem gambling, awareness and use of problem gambling services, other substance use and dependency, general health and well being.

SECTION 4

Recommendations

Section 4 lists recommendations as identified by the Nova Scotia Office of Health Promotion.

APPENDICES

Appendices (under separate cover)

Appendix A – Household Screen

A copy of the Household Screen used to identify household composition and create sampling frame for study survey with adults.

Appendix B – Interviewer Instruction Booklet

Interviewer Booklet and instructions for completing player grid requirements of the Prevalence Questionnaire (detailed play behaviour for each of the 18 types of gambling available in Nova Scotia).

Appendix C – 2003 Prevalence Questionnaire

A copy of respondent survey conducted with all adults participating in the study.

Appendix D – Verbatim Responses

A complete listing of respondents' verbatim answers for open-ended questions or comments.

Appendix E – Data Tables

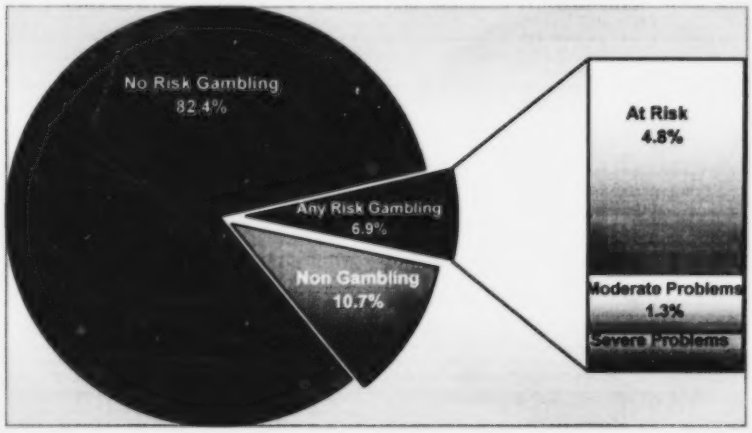
A complete set of data tables for all survey measures was produced for total adults and by primary segmentation variables, including: Shared Service Area, gender, age, income, and gambler type segments.

Section 2

Gambling Prevalence in Nova Scotia

Risks for Problem Gambling in Nova Scotia - 2003

Figure 1: 2003 Nova Scotia Gambling Prevalence by Canadian Problem Gambling Index (CPGI) Classification – Total Adults (19 years or older) (n=2,800)



Based on the Canadian Problem Gambling Index, it is estimated that approximately 6.9% (± .64%) or about 50,000 adults in Nova Scotia are at any level of risk for problem gambling.

About one-third of these "any risk gamblers" (≈ 15,000 adults) are currently identified as being involved at problem levels, with 1.3% (±.42%) scoring for Moderate Problems and .8% (±.33%) identified as Severe Problem Gamblers.

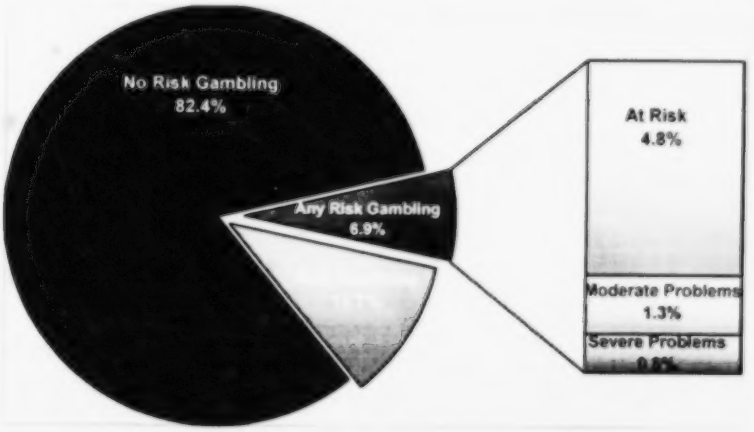
Gambling is a popular activity in Nova Scotia with 89.3% of all adults having wagered on at least one game of chance during the 12 months preceding the survey. According to the classification system using the Canadian Problem Gambling Index (CPGI - specifically the PGSI – Problem Gambling Severity Index), it can be estimated that, over the past year, the vast majority of adults in the province of Nova Scotia engaged in some form of gambling and scored at No Risk for problem gambling (82.4%, ± 1.4%).[21] However, 6.9% (± .64%) of the adult population, representing almost 50,000 adults in the province, is scoring at any level of risk for problem gambling with almost one-third of these same people characterized as gambling at Moderate (1.3% of adults, ± .42%) to Severe Problem levels (.8% of adults, ± .33%). Thus, collectively, 2.1% (± .53), or approximately 15,000 adults in Nova Scotia are currently identified as scoring at Problem Gambling levels.

[21] The figures reported in the current study are point estimates. Actual estimates will fall within a specified range around each point estimate referred to as the margin of error (± %) that are applicable at the 95% Confidence Interval. For critical indices (gambling prevalence) the margins of errors at the 95% Confidence level are included to illustrate the range of the estimate in generalizing to the population.

Final Report

Section

Risks for Problem Gambling in Nova Scotia - 2003



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Nova Scotia Gambling Prevalence 1993 – 2003

Compared to prevalence estimates obtained using the South Oaks Gambling Screen (SOGS), use of the Canadian Problem Gambling Index (CPGI) consistently produces lower population estimates of problem gambling and excludes a "pathological" gambling category.

However, the CPGI does yield higher rates of "At Risk" estimates by distinguishing between "No" and "Low" Risk gambling. Ideally this increases the sensitivity of the measure in meeting objectives for prevention as well as treatment.

The use of standardized prevalence measures are intended to allow for cross-jurisdictional comparisons among different populations and to provide baseline data that can be tracked over time to monitor and assess the impacts of changes related to gambling interventions, policy or practices. In 1993 and 1996, the South Oaks Gambling Screen (SOGS) was the measure used to determine estimates of problem gambling in Nova Scotia. Despite its wide use as a standardized screen, there were a number of criticisms surrounding the use of SOGS in general population-based surveys. In particular, concerns have been expressed surrounding the lack of validation in non-clinical application and the level of "false positives" identified in such studies potentially inflating prevalence estimates. A new measure, the Canadian Problem Gambling Index (CPGI), specifically designed and validated for population surveys, has been used in the third wave of the Nova Scotia Prevalence Study (2003). The CPGI measure was developed in 2000 from a collaborative effort among the Canadian provinces to validate and put into practice a standard instrument for measuring problem gambling in the Canadian general population.

Table 8: Comparative Rates of Gambling Prevalence in Nova Scotia Using South Oaks Gambling Screen (SOGS-1993 versus 1996)[22]

	Risk For Problem Gambling	
	1993 (SOGS) (n=810)	1996 (SOGS) (n=801)
Prevalence Patterns for Problem Gambling in Nova Scotia – SOGS		
No Problem Gamblers *(SOGS Score 0 - 2: 1993, 1996)*	*≈ 84.2%*	*86.5%*
Problem Gamblers *(SOGS Score 3-4: 1993, 1996)*	*3.1%*	*3.6%*
Pathological Gamblers *(SOGS Score 5+: 1993, 1996)*	*1.7%*	*1.9%*

* indicates significant difference at minimum 95% + confidence interval ($p < .05$)

Between the 1993 and 1996 Prevalence Studies conducted in Nova Scotia there were no significant differences observed for the three primary gambling segments profiled.

[22] The raw data files for the previous prevalence studies were not available for direct comparative analysis. Therefore, figures included for 1993 and 1996 were referenced using the Final Reports produced for the Nova Scotia Department of Health, Addiction Services. In some cases comparable figures, such as the percentage of adults qualified as Non-Gamblers in 1993 (i.e., did not gamble in last year) were derived based on the available information presented in the report. Actual percentages may vary slightly (±1%-2%) from those presented in the current study due to rounding and/or the use of imprecise estimates in generating the numbers. Regardless, the method was examined and found to have had no impact in contributing to significant differences over the three measurement periods.

The CPGI, being designed for use in broad based population surveys, does not incorporate estimates of pathological gambling but rather focuses on estimates of risk for problem gambling consistent with community health objectives surrounding both prevention and treatment. In other Canadian jurisdictions adopting the CPGI for measurement of risk for problem gambling, tracking of gambling prevalence has been adjusted to yield more meaningful comparisons with SOGS based estimates. Therefore, for comparative purposes, the results of all three studies in Nova Scotia have been re-classified under "Risk for Problem Gambling" consisting of three primary categories: "Not at Risk"; "At Risk" and "Problem":

When the results are adjusted in order to allow for any meaningful comparison between SOGS- (1993 & 1996) and CPGI-based scores (2003), there are no significant changes observed at the 95% confidence level in prevalence for problem gambling in Nova Scotia over the three measurement periods. However, the percentage scoring "At Risk" has statistically increased since 1993 (3.1% to 4.8%).

The percentage of adults identified as Problem Gamblers ranges from 1.7% (± .90%) in 1993 to 2.1% (± .53%) in 2003.

	SOGS (1993 & 1996)	CPGI (2003)
Not at Risk:	Non Gamblers & Non Problem (Score 0-2)	Non Gamblers & No Risk (Score 0)
At Risk:	Problem (Score 3-4)	Low Risk (Score 1-2)
Problem:	Probable & Pathological (Score 5+)	Moderate Risk & Problem (Score 3+)

Table 9: Modified Comparative Summary: 1993 - 2003 (2003 CPGI reclassified to include Low Risk (score 1-2) as At Risk, Moderate+ Risk as Moderate Problem (score 3-7) and Severe Problem (score 8+)).

	Risk For Problem Gambling		
	1993 (SOGS) (n=810)	1996 (SOGS) (n=801)	2003 (CPGI) (n=2,800)
Not at Risk	95.2%	94.5%	93.2%
At Risk	≈3.1%	≈3.6%	≈4.8%*
Problem (Moderate – Severe/Pathological)	≈1.7%	≈1.9%	≈2.1%

* indicates significant difference at minimum 95% + confidence interval ($p < .05$)

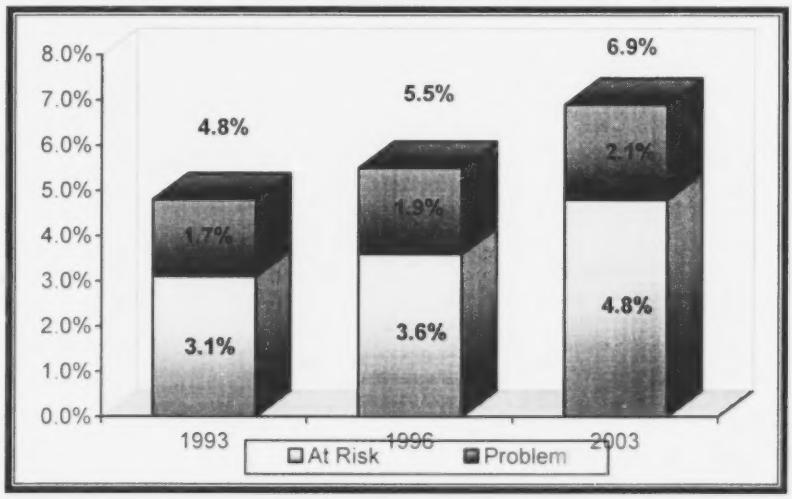
When the data for the current study are presented based on No Risk/Risk criteria, it can be estimated that while the prevalence of problem gambling has remained fairly constant over the three measures, collectively, the proportion of those At Risk for problem gambling has increased significantly (p=.03). Since 1993, the percentage of adults in Nova Scotia identified as being at any level of risk for developing problems with gambling ("At Risk" + "Problem") has moved from 4.8% of the population (± 1.24%) in 1993 to 6.9% (± .78%) in 2003, suggesting that approximately 15,000 more adults in the province are now characterized as being at risk for gambling problems as compared to 10 years ago.

It should also be noted that the prevalence estimates for 1993 were based on SOGS lifetime measure of gambling problems whereas both the 1996 and 2003 studies are measuring current rates. This discrepancy in measures has implications for identifying changes in current rates of

problem gambling insofar as it is not possible to accurately detect changes in the percentage of adults actively scoring for problem gambling as compared to 10 years ago. However, the fact that the results in 1993 are likely to overstate problem gambling prevalence to some extent does serve to heighten the significance of the trend identified in 2003 for an increase in the percentage of adults in Nova Scotia now at risk for problem gambling (Figure 3 below).

Despite the fact that the percentage of adults identified as Problem Gamblers has remained relatively constant over the 3 measures (1993-2003), use of the CPGI has resulted in the identification of approximately 15,000 more adults at potential risk for a gambling problem than was the case 10 years ago. This represents an increase of almost 50% in NS over the last decade.

This is a conservative estimate given that the 1993 figures represent lifetime rates of problem gambling rather than current rates, as is the case in 1996 and 2003.



problem gambling insofar as it is not possible to accurately detect changes in the percentage of adults actively scoring for problem gambling as compared to 10 years ago. However, the fact that the results in 1993 are likely to overstate problem gambling prevalence to some extent does serve to heighten the significance of the trend identified in 2003 for an increase in the percentage of adults in Nova Scotia now at risk for problem gambling (Figure 3 below).

Despite the fact that the percentage of adults identified as Problem Gamblers has remained relatively constant over the 3 measures (1993-2003), use of the CPGI has resulted in the identification of approximately 15,000 more adults at potential risk for a gambling problem than was the case 10 years ago. This represents an increase of almost 50% in NS over the last decade.

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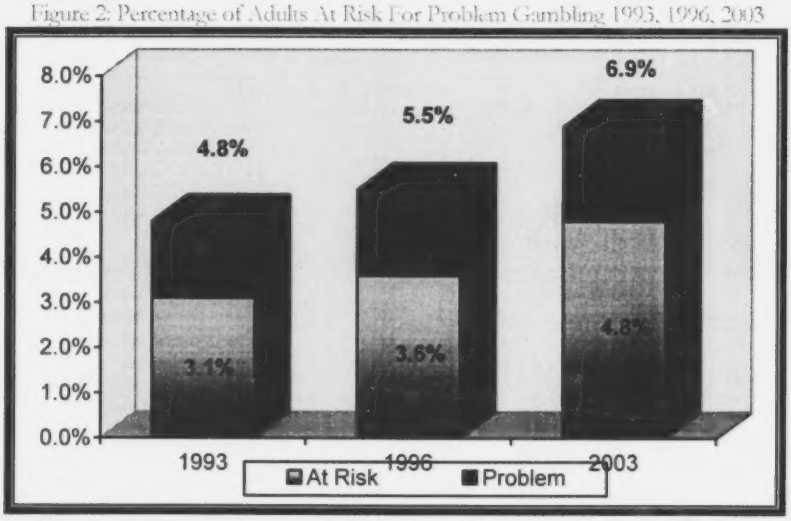
Figure 2: Percentage of Adults At Risk For Problem Gambling 1993, 1996, 2003



Canadian Problem Gambling Prevalence

Rapid growth in gambling over the past decade has led to a 320% increase in net revenues and contributed net profits of $6 billion in Canada in 2002.

Canadian Trends in Gambling 1992 – 2002 (Statistics Canada)[23]

Over the past 10 years, there has been about a 320% increase in net revenue from gambling in Canada (≈ $2.7 billion to $11.3 billion) accompanied by the creation of approximately 30,000 new jobs (1992: ≈ 12,000 to 2002: ≈ 42,000) or a 250% increase in the number of people directly employed in the gaming industry during this same time period. Despite the fact that gambling still only accounts for a small portion of total provincial revenues, the overall contribution of this growth industry has moved from a 1.9% to 5.1% share of total provincial revenues, representing an increase in net profits from ≈ $1.7 billion in 1992 to $6 billion in 2002.

The rapid growth of gambling in Canada over the past 10 years is almost entirely accounted for by the introduction of VLTs, Casino gambling and the distribution of slot machines outside of casino locations, primarily outside of the Atlantic region.

In 1992, traditional government-run lotteries accounted for 90% of gaming revenues, hitting a high of $2.8 billion around 1994 and holding fairly steady from that point on. By 1998, lotteries only represented 35% of all gaming revenues and have further declined to 27% by 2002 as a result of the dramatic rise in contributions from VLTs and Casino gaming. In late 1996, Casino revenues began outperforming VLTs and by 1998 had surpassed traditional lottery products, bringing in about $3.8 billion last year. Casino gaming now accounts for 34% of all non-charity national net gaming revenues, followed by lotteries (27%), VLTs (23%) and slot machines located outside casino locations (17%). While lotteries have generally been stable over the past 10 years, horse racing (pari-mutuel betting) has actually been declining (1992: $530 million, 2002: $440 million) and, although Statistics Canada does not directly report revenue numbers for Bingo (given the charitable status for many of such operators), there has been a downward trend noted for participation rates in Bingo as well. Undoubtedly, primary gambling growth is attributable to the widespread distribution of electronic gambling machines (VLTs and slot machines inside/outside casinos), which collectively account for at least two-thirds of current revenues and profits in Canada.

While this growth in gambling revenues and job creation appears to be a positive outcome, it is critical that such growth is evaluated in terms of costs at an individual and community level.

Comparative Gambling Prevalence – Canadian Jurisdictions Using CPGI

In Canada and abroad there has also been an increase in efforts to assess and address the public and community health impacts accompanying rapid growth in gambling. Since the development and validation of the Canadian Problem Gambling Index (CPGI) in 2000/01

[23] Source: Statistics Canada - Fact Sheet on Gambling (March, 2003), Perspectives on Labour and Income (Catalogue no. 75-001-XIE).

Nova Scotia is the 7th province in Canada to measure gambling prevalence in the general population using the scored items comprising the Canadian Problem Gambling Index (CPGI).

(Ferris & Wynne, 2001), six provincial jurisdictions in Canada have conducted general population gambling prevalence surveys using this new measure; Ontario (Wiebe, Single & Falkowski, 2001), New Brunswick (Schrans, Schellinck & Focal Research Consultants, 2001), Manitoba (Patton et al, 2002), Alberta (Smith & Wynne, 2002), Saskatchewan (Wynne, 2002) and, most recently, British Columbia (Volberg, R.A. & Ipsos-Reid, 2003). The current Nova Scotia study marks the seventh participating province (Schrans, Schellinck & Focal Research Consultants, 2003).

Table 10: CPGI Risk for Problem Gambling by Province

	NB Aug 01 (n=800)	ON Dec 01 (n=5000)	MB July 01 (n=3119)	SK Jan 02 (n=1848)	AB Feb 02 (n=1804)	BC Dec 02 (n=2500)	NS Dec 03 (n=2800)	Canada Apr 00 (n=3120)
No Risk Gamblers (CPGI score = 0)	91.9%	86.6%	90.6%	84.8%	85.0%	84.3%	93.2%	89.9%
Low Risk (CPGI score = 1-2)	4.9%*	9.6%	6.0%*	9.3%	9.8%	11.1%	4.8%*	6.8%
Moderate Risk (CPGI score = 3-7)	1.8%*	3.1%	2.3%*	4.7%	3.9%	4.2%	1.3%*	2.4%
Problem Gamblers (CPGI score = 8+)	1.4%	0.7%	1.1%	1.2%	1.3%	0.4%*	0.8%	0.9%

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

In both the Ontario Prevalence Study (*Wiebe, Single & Falkowski, 2001*) and, more recently, the BC Study (*Volberg, R.A. & Ipsos-Reid, 2003*) the original labels for the four gambling levels identified in the CPGI (Ferris & Wynne, 2001) were modified to reflect differing theories about the progression of gambling problems as measured by the new screen.

In the British Columbia report, the authors (Dr. Rachel Volberg, Gemini Research & Ipsos-Reid, 2003) adopted the adjusted terminology for the CPGI risk segments first put forth in the Ontario Prevalence Study (Wiebe, Single & Falkowski, 2002). While the definitions (classification characteristic) of each risk category remain unchanged, the "names" associated with the classification are modified.

"[Using the CPGI] nine of the items are scored, placing an individual at one of four levels. Level 1, which consists of a score of 0, constitutes the problem-free gambling group. Level 4, a score of 8 or greater, represents the most severe problem gambling group. The creators of the CPGI labeled Levels 1 to 4 as non-problem gambling, low-risk gambling, moderate-risk gambling and problem gambling (Ferris & Wynne, 2001). However, we were uncomfortable with these labels, particularly low risk and moderate risk. There is very limited information on the progression of gambling problems. Until more is learned through longitudinal studies, a decision was made to use the following label: non-Problem Gamblers, at risk, moderate problems and severe problems".

(Jamie Wiebe, Eric Single, Agata Falkowski-Ham; Measuring Gambling and Problem Gambling in Ontario, December 2001, p. 13).

Table 11: CPGI Classification Scores, Category Labels (Standard versus Revised)

CPGI Score/Definition	CPGI Label	Modified Label (ON, BC)
CPGI score = 0/no items *Respondents in this group will have responded "never" to all of the 9 indicators of behavioural problems, although they may well be a frequent gambler with heavy involvement in terms of time or money. The "professional" gambler would fit into this category. This group will not have experienced any adverse consequences of gambling, nor will they agree with the distorted cognition items.*	**No Risk / Non-Problem Gamblers**	**Non-Problem Gamblers**
CPGI score = 1-2 *Respondents in this group will have responded "never" to most of the 9 indicators of behavioural problems, but will have at least one or two "sometimes" or one more often responses. Originally it was stated that this group likely will not have experienced any adverse consequences from gambling. However, endorsement of any of the items suggests that, at least upon occasion, such respondents are reporting consequences from their gambling. This is in strong contrast to No Risk gamblers who report no consequences. Therefore, it is argued that "At Risk" is more accurate terminology for those scoring 1-2 on the CPGI.*	**Low Risk**	**At Risk**
CPGI score = 3-7 *Respondents in this group will have responded "never" to most of the 9 indicators of behavioural problems, but will have at least three or more "sometimes" responses or at least one or more "most of the time" or "always" responses. Again, under the original CPGI category definitions, it was presented that members of this group may or may not have experienced any adverse consequences from gambling. It is argued that the criteria for Moderate classification suggest that the individual, by definition, is reporting consequences on a number of different dimensions as a result of his or her gambling regardless of the frequency such consequences are experienced. Such consequences in combination alone or in combination are by definition adverse. The label is adjusted from Moderate Risk to Moderate Problems to reflect the level of consequences being experienced.*	**Moderate Risk**	**Moderate Problem**
CPGI score = 8+ *Respondents in this group are those who have experienced adverse consequences from their gambling, and may have lost control of their behaviour. Involvement in gambling can be at any level, but it is likely to be heavy. This group is more likely to endorse the cognitive distortion items .To reflect the level of severity of consequences experienced as well as to differentiate the category from those reporting less extreme outcomes the label was changed from Problem Gambling to Severe Problems.*	**Problem Gambler**	**Severe Problem**

Low Risk (score=1-2) was changed to "At Risk", the Moderate Risk category (score=3-7) was renamed as Moderate Problem and Problem Gambling (score=8+) was revised to Severe Problem. This means that scores of 3+ on the CPGI are included in the estimates of problem gambling in the population thereby having a significant effect in elevating prevalence estimates.

This approach has set a new standard for positioning responses in other provinces. Continuing debate is expected in assessing the efficacy of the approach but, in the interim, the results in Nova Scotia are also examined using the modified labels for comparative purposes.

The results for the 2003 Nova Scotia Prevalence Study were examined using the modified CPGI labels for comparison with gambling prevalence identified in the other provincial jurisdictions.

Canadian Prevalence Estimates Using Modified CPGI

Rates of Severe Problem Gambling (≈ 1.0%, ± .44%) are similar in all participating provinces with the exception of British Columbia (.4% ± .25%).

BC is the only participating province that (at the time of the survey) does not offer widespread access to electronic gambling machines, specifically, VLTs in licensed establishments or slot machines outside of controlled venues, although the impact of recent gaming expansion in this province may be reflected in the higher rates of adults at risk for problem gambling.[24]

Table 12: Comparative Canadian Prevalence Estimates Using Modified Labels for CPGI

	NB Aug 01 (n=800)	ON Dec 01 (n=5000)	MB July 01 (n=3119)	SK Jan 02 (n=1848)	AB Feb 02 (n=1804)	BC Dec 02 (n=2500)	NS Dec 03 (n=2800)	Canada Apr 00 (n=3120)
Non Problem Gamblers (CPGI score = 0)	91.9%	86.6%	90.6%	84.8%	85.0%	84.3%	93.2%	89.9%
At Risk Gamblers (CPGI score = 1-2)	4.9%*	9.6%	6.0%*	9.3%	9.8%	11.1%*	4.8%*	6.8%
Moderate Problem Gamblers (CPGI score = 3-7)	1.8%*	3.1%	2.3%*	4.7%*	3.9%*	4.2%*	1.3%*	2.4%
Severe Problem Gamblers (CPGI score = 8+)	1.4%	0.7%	1.1%	1.2%	1.3%	0.4%*	0.8%	0.9%
Total Problem	3.2%	3.8%	3.4%	5.9%*	5.2%*	4.6%	2.1%*	3.3%

* indicates significant difference at minimum 95% + confidence interval ($p < .05$)

The rate of Severe Problem Gambling (CPGI Score 8+) is comparable in all provincial jurisdictions except BC. BC has a significantly lower level of "Severe Problem Gambling" (.4%) as compared to any of the other participating provinces. However, it appears that this relative advantage is offset by a higher proportion of adults falling into the At Risk (11.1%) and Moderate Problem (4.2%) segments. This positions BC (15.7%) among those provinces with the highest proportion of adults currently scoring at any level of risk for problem gambling, including Saskatchewan (15.2%), Alberta (15.0%) and Ontario (13.4%).

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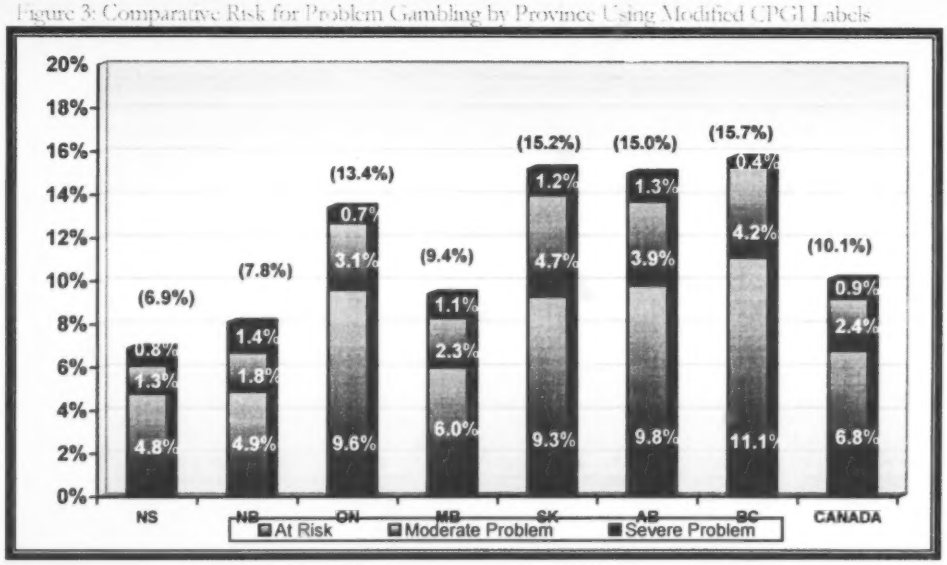
[24] Currently, BC Government gaming policy does not permit broad accessibility to electronic gambling machines (VLTs) in licensed establishments or other locations throughout the province. However, British Columbia has experienced dramatic growth and undergone major repositioning since change was initiated in 1997, primarily in response to a court decision, "the Nanaimo Decision", which prohibited government from continuing to share in profits from games operated under the charity section of the Criminal Code of Canada. The BC government then moved Casino gambling from charity status to fall under the commercial gaming section of the code and assigned BCLC responsibility for operating and managing slot machines in the province as well as electronic Bingo products. In 1998, this mandate was expanded to include all casino gaming and, by 2002, the government had transferred all commercial Bingo gaming over to the Corporation. In just under 5 years, BCLC went from conducting and managing traditional lottery products (online Draw tickets, Scratch 'n Wins, Break-opens) and the Sports Lottery (Sports Action) to assuming additional responsibility for all Casino gaming (≈ 18 community and destination Casinos; ≈ 3000 Slot Machines and ≈ 375 Table games), and all Bingo gaming (electronic Bingo; ≈ 14 Starship Bingo sites, linked Bingo; ≈ 80-85 SuperStar Bingo sites, and paper commercial Bingo; ≈ 38 halls) in the province. During this same time period, revenues more than tripled from about $800 million in 1997 to ≈ $1.8 billion in 2002. This is in contrast to the other provincial jurisdictions in which access to electronic gambling (VLTs) has been widely available since the early 90's (NS, NB, SK, MN, AB) and in the case of Ontario (Slots) since the expansion of Casino type venues in the late 90's. BC was also the only province to have a daily multi-draw lottery ticket. Revenues for this Keno ticket exceed those obtained for Lotto 6/49, although only ≈ 4% of adults play Keno regularly versus about half of adults who play Lotto 6/49.

Figure 3: Comparative Risk for Problem Gambling by Province Using Modified CPGI Labels



Compared to the other participating provinces, Nova Scotia and New Brunswick have among the lowest rates of adults in Canada scoring at any level of risk for problem gambling.

While the rate for Severe Problems in Nova Scotia is statistically similar to the other provinces, the proportion scoring for Moderate Problems is lower in NS (1.3% ±42%), NB (1.8%, ±92%), and, to a lesser extent, Manitoba (2.3%, ±.53%) than in Ontario and the three Western provinces (SK, AB, BC).

The proportion identified as At Risk is also lower in Nova Scotia, New Brunswick and Manitoba, with the two Maritime Provinces having rates about half that observed elsewhere in Canada.

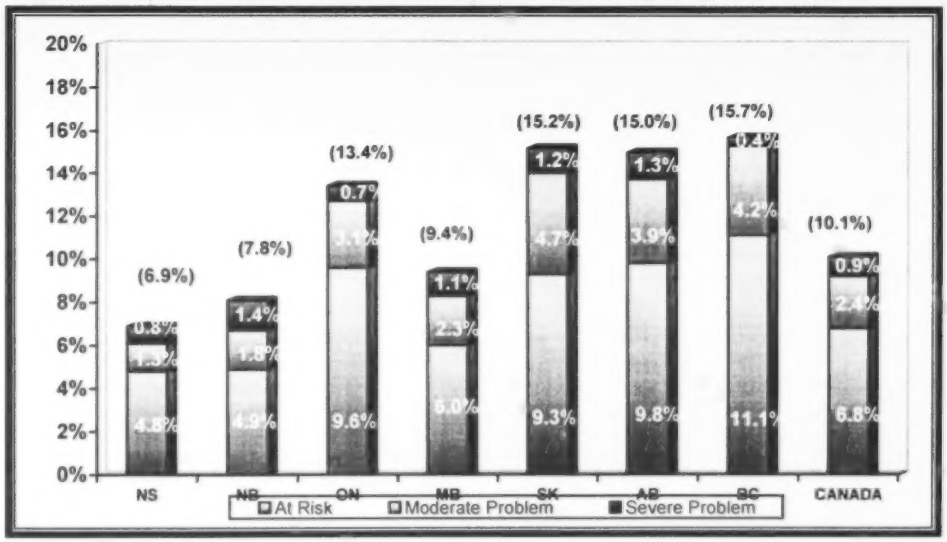
It appears that a number of factors are likely contributing to these findings, including survey methodology and measurement as well as differences in provincial gambling practices.

The distribution of CPGI classifications is almost identical in Nova Scotia and New Brunswick. With the exception of those identified as Severe Problem Gamblers, estimates of those At Risk or scoring for Moderate Problems in both of these two Maritime Provinces are among the lowest anywhere in Canada. Findings in Manitoba are also similar but overall tend to reflect significantly higher levels of adults scoring At Risk than is the case in Nova Scotia (although results in Manitoba do not differ significantly when compared to New Brunswick). There are a number of factors that may be contributing to this finding, some of which reflect differences in provincial gaming availability and practices, others of which are likely related to measurement and methodological issues.

In those provinces with the highest rates of adults scoring At Risk for problem gambling, there also tends to be higher per capita access to Casino type gambling options and other forms of continuous gambling formats. These include linked or electronic Bingo and the introduction of "racinos" operations (race track, slot/gambling machine combinations) and/or multi-draw lotteries (Statistics Canada, 2002 Fact Sheet on Gambling:: Canadian Gaming News, 2001; Provincial Annual Gaming Reports), whereas, noted previously, widespread VLT access is associated with higher rates of moderate to severe problems.

The only new gambling introduced in Nova Scotia was Casino gambling in 1994 (Sydney and Halifax), the construction of a new permanent site for the Halifax Casino with expanded facilities and gaming floor (April 2000) the expansion of ALC's Sports Lottery (Over/Under, August 2002) and the introduction of a daily Draw game (Keno Atlantic, October 2002). Over the past 10 years, the majority of government gambling activity in the province of Nova Scotia

Figure 3: Comparative Risk for Problem Gambling by Province, Using Modified CPGI Labels



Compared to the other participating provinces, Nova Scotia and New Brunswick have among the lowest rates of adults in Canada scoring at any level of risk for problem gambling.

While the rate for Severe Problems in Nova Scotia is statistically similar to the other provinces, the proportion scoring for Moderate Problems is lower in NS (1.3% ±42%), NB (1.8%, ±92%), and, to a lesser extent, Manitoba (2.3%, ±.53%) than in Ontario and the three Western provinces (SK, AB, BC).

The proportion identified as At Risk is also lower in Nova Scotia, New Brunswick and Manitoba, with the two Maritime Provinces having rates about half that observed elsewhere in Canada.

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has been directed at addressing Video Lottery in the province. This includes the 1998 Moratorium Act capping the number of terminals in the province at 3,234 (excluding First Nation sites), the VL Retailer Responsible Gaming Training Program (1999), and introduction of responsible gaming features on the terminals intended to assist players in managing their VL gambling (2001). However, the new terminals were also introduced with bill acceptors, enhanced graphics and new games. Video lottery wagers and losses in Nova Scotia have continued to increase. In 2001/02, Nova Scotians wagered about $575.5 million on VLTs, with this product alone accounting for over half of the growth in gambling expenditures (losses) over the past 6 years and contributing 60% of net provincial gambling revenue.[25] During the same time period, there has also been almost a 50% increase observed in the percentage of adults identified at some level of risk for problem gambling (1993: 4.8% versus 2003: 6.9%).

Compared to most other provinces, gambling expansion in Nova Scotia has been conservative since the last prevalence study in 1996. With the exception of a new permanent site for the Halifax Casino, including expanded facilities and gaming floor (April 2000), and two new ALC lottery products, Sport Select Over/Under (August 2002) and Keno Atlantic daily Draw game (October 2002) the majority of initiatives have been directed at mitigating problem gambling, especially for VLTs.

New Brunswick does not yet have any Casino gambling available in the province. However, prior to 2000, Video Lottery terminals in NB were operated and distributed by private coin operators rather than the government and had been available in stores and other unlicensed establishments. VLTs were subsequently restricted to liquor licensed establishments (1999) and the contract between independent coin operators and the government ended March 31, 2002. Effective April 2002, the Province of New Brunswick introduced a new operating model for delivery of Video Lottery in the province through the Atlantic Lottery Corporation, the body responsible for operating VLTs in Nova Scotia and Newfoundland over the past 10 years. The prevalence study for New Brunswick was conducted prior to the introduction of this new legislation.

Gambling expansion in Nova Scotia and the adjacent province of New Brunswick has been modest compared to the other provinces across Canada. The widespread distribution for Video Lottery in Nova Scotia and New Brunswick is likely contributing to the consistency in rates for problem gambling among almost all provinces. Therefore, while gambling policies in Nova Scotia (and New Brunswick) may be slowing down the growth rate of risk for problem gambling, serving to keep the proportion of adults "at risk" comparatively lower than in other provincial jurisdictions, such policies have not yet managed to stop increases in the percentage of adults at risk, nor reduce rates of problem gambling in the province.

It should be noted that Focal Research conducted both studies in New Brunswick and Nova Scotia and achieved response rates in excess of 60%. CPGI estimates in these two provinces do not differ significantly. In contrast, the response rates for the random samples in the remaining provinces fell below 50%, in many cases reaching levels of under 40%, indicating that less than

[25] See Section 1: Gambling Wagers and Revenues in Nova Scotia (1996/97 versus 2001/02) for detailed presentation and discussion. Revenue figures are sourced using the most recent NS Annual Gaming Report (2001-2002), prepared and released by the Nova Scotia Alcohol and Gaming Authority.

half of qualified respondents on the sample actually participated in the studies. Those who did not participate (non-respondents) may have differed significantly from those taking part in the studies. Moreover, such studies did not adjust for sampling of multiple adult households. The figures obtained in the two Maritime Provinces are similar to estimates obtained in the Canadian validation survey for the CPGI (Ferris & Wynne, 2001). This suggests that sampling issues may be playing some role in inflating At Risk estimates obtained, especially in Ontario, Saskatchewan, Alberta and British Columbia, although estimates of Moderate to Severe problem gambling prevalence are less likely to be affected by sampling variance due to the relatively small occurrence of the phenomenon in the general population.[26]

[26] Refer to Section 1: Design Considerations, for discussion of methodology and sampling issues.

KEY DEMOGRAPHIC SEGMENTS FOR RISK PROFILING

- Shared Service Area
- Gender
- Age Category
- Household Income

Profiles of Risk for Problem Gambling indicate the percentage of adults in each Risk Segment that have particular demographic characteristics. This analysis tests for any differences in the characteristics among the Risk Segments.

Penetration figures for Risk of Problem Gambling indicate the percentage of adults in each demographic category that fall into each of the risk segments for problem gambling. This analysis tests for any differences in risk among the demographic segments.

Risks for Problem Gambling in Nova Scotia By Key Population Segments (Health District, Gender, Age, Income)

In discussion with Office of Health Promotion, there were four strategic demographic segments identified for detailed profiling: Shared Service Area (Health Districts), Gender, Age, and Household Income. The sample size Severe Problem Gamblers (CPGI score 8+; n=21) is too small to yield reliable estimates for meaningful comparison across various sub-segments in the population. Therefore, scores for Moderate and Severe Problem Gambling were combined (Score 3+) and examined over the following four CPGI categories:

	% of Population	Sample size (n)	Margin of Error[27]
Non-Gamblers	10.7%	n=299	± 5.67%
No Risk Gamblers	82.6%	n=2,311	± 2.04%
At Risk Gamblers	4.8%	n=134	± 8.47%
Problem Gamblers	2.1%	n=56	± 13.1%

To assess risk for problem gambling associated with these population characteristics, two measures were calculated:

- Profile of Risk for Problem Gambling by Key Demographic Segments (Table 10)
- Penetration of Risk for Problem Gambling Within Key Demographic Segments (Table 11).

Profile of Risk Segments refers to the percentage of adults in each Risk Segment that also fall into each identified demographic segment. This allows for a comparison of the profile of adults in each of the various risk groups (Non Gamblers; No Risk Gamblers; At Risk Gamblers; Problem Gamblers; and Total Adults) in terms of Shared Service Area (where they live), Gender, Age, and Household Income. **This is useful in testing and identifying differences among the Risk Segments.**

Penetration of Risk Segments refers to the percentage of adults in each demographic category that falls into each of the four Risk Segments. This allows for a comparison of risk within the key demographic groups identified. **This is useful for determining differences in risk for problem gambling among certain demographic groups in the population.**

[27] Margins of Error were calculated based on maximum requirements for detecting statistically significant differences at the 95% confidence interval (i.e., when point estimates fall at 50%). When percentages fall above or below the 50% mark, the margin of error also declines so that smaller differences are required to reach statistical significance. The margins of error presented above are intended for use as a guide when evaluating differences in responses between the various risk segments. If results for a particular risk segment fall within the margin of error for another segment, there is no significant difference between the estimates even though it may appear that one (percent) is higher or lower. In those cases where the point estimates clearly fall outside of the maximum ranges specified, users can be confident that a statistically significant difference exists.

How to Read Table:

The "Profile Table" shows the percentage of adults in each Risk Segment (Non-Gamblers; No Risk; At Risk; Problem; and Total Adults) that falls into each of the demographic categories.

The Risk Segment and Total Adult columns each sum to 100% for each demographic variable (Shared Service Area, Gender, Age, and Income).

For example: 42% of adults live in DHA 9 (Capital) with remaining adults in the province fairly evenly divided among the remaining three Shared Service Areas: DHAs 7 & 8 (Eastern: 19%) DHAs 4, 5 & 6 (Northern: 18%) DHAs 1, 2 & 3 (Western: 21%).

Comparisons are made among the Risk Segments (comparing numbers in each column horizontally) to determine if the distributions of demographic characteristics are different for those in each risk segment (i.e., Do Problem Gamblers live in different areas of the province than No Risk or At Risk Gamblers?)

An asterisk (*) is used to indicate that there is a significant difference for that particular demographic characteristic among the Risk Segments (at a minimum 95% confidence level, p<.05, Chi square). This does not tell the reader how the distributions differ, only that there are differences.

A diamond (♦) is used to indicate which Risk Segments are contributing to differences observed (paired Chi square testing, p<.05). In some cases, such as for Household Income, only one group (Non Gamblers) differs significantly from the other 3 categories whereas for Age, differences are observed among all of the Risk Groups.

Profile of Risk For Problem Gambling by Key Population Segments

Table 13: Profile of Risk for Problem Gambling by Key Population Segments (Shared Service Area, Gender, Age, Income)

	Risk For Problem Gambling (CPGI Score)				
	Non Gamblers (n=299)	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	Total Adults (n=2800)
Percentage of Adults in Nova Scotia:	10.7%	82.5%	4.8%	2.1%	100%
Shared Service Area (Health Districts): *	♦	♦	♦	♦	
DHA 9 (Capital)	38.8%	42.6%	43.3%	46.4%	42.3%
DHAs 7 & 8 (Eastern)	14.0% ↓	19.1%	18.7%	25.0% ↑	18.7%
DHAs 4 5 & 6 (Northern)	15.4%	18.0% ↑	19.4% ↑	8.9% ↓	17.6%
DHAs 1 2 & 3 (Western)	31.8% ↑	20.3% ↓	18.7% ↓	19.6%	21.4%
Total	100%	100%	100%	100%	100%
Gender: *	♦		♦		
Male	47.8% ↓	46.4% ↓	57.5% ↑	58.9% ↑	47.3%
Female	52.2% ↑	53.6% ↑	42.5% ↓	41.1% ↓	52.7%
Total	100%	100%	100%	100%	100%
Age: *	♦	♦	♦	♦	
19-24 years	7.7% ↓	8.6% ↓	15.7% ↑	10.7%	8.9%
25-34 years	7.4% ↓	15.9% ↓↑	23.1% ↑	26.8% ↑	15.6%
35-44 years	11.7% ↓	25.4%	27.6%	25.0%	24.0%
25-54 years	13.4% ↓	22.0%	20.9%	23.2%	21.0%
55-64 years	22.1% ↑	14.2% ↑	8.2% ↓	10.7% ↓	14.7%
65 years or older	37.8% ↑	13.9%	4.5% ↓	3.6% ↓	15.8%
Total	100%	100%	100%	100%	100%
Annual Household Income: *	♦		♦		
<$30,000 (Low)	39.8% ↑	24.4%	29.4%	27.3%	26.2%
$30-$59,999 (Mid)	42.1%	39.4%	38.1%	38.2%	39.5%
$60,000+ (High)	18.1% ↓	36.3%	32.5%	34.5%	34.2%
Total	100%	100%	100%	100%	100%

Shading (▯) is used to highlight the actual figures which are contributing to the differences observed (two-tailed z-tests for proportions, p<.05). This illustrates the primary distinctions between the group responses and assists in identifying patterns in the data. An arrow (↑↓) indicates if the percentage is significantly higher or lower than the percentage found in the same row under the other Risk Segments. If both arrows are included, this indicates that a number is both significantly higher than another highlighted response and lower than a different highlighted response.

For example, those aged 19-24 years make up a larger proportion of the At Risk Group (15.7%) as compared to Non Gamblers (7.7%) or No Risk Gamblers (8.6%) but there is no significant difference for those scoring for Problems compared to any of the groups. However, the proportion of adults aged 25-34 increases with risk for problem gambling, with Non Gamblers having the lowest percentage of adults in this age category (7.4%), No Risk Players significantly higher (15.9%) and adults scoring At Risk or for Problems having the highest proportion of adults in this age range (≈ 25%).

For Gender, men comprise a similarly higher proportion of those At Risk (57.5%) or Problem Gamblers (58.9%) as compared to No Risk (46.4%) or Non Gamblers (47.8%).

Penetration of Risk For Problem Gambling by Key Population Segments

How to Read Table:

Penetration measures the percentage of adults in each Demographic category (Shared Service Area - 4 DHA groupings, Gender- male/female, Age - 6 groupings, and Income - 3 groupings) that fall into the 4 Risk Segments for problem gambling.

Each Demographic sub-segment is summed across the row to equal 100%. Therefore, the comparisons (test of significance) are conducted between the rows vertically. For example, DHA 9 compared to DHAs 7&8.

An asterisk (*) is used to indicate that there is a significant difference in risk for problem gambling associated with the demographic characteristic being measured, such as Shared Service Area (at a minimum 95% confidence level, p<.05, Chi-square). This does not tell the reader which categories within that demographic characteristic differ, only that there are differences.

A diamond (♦) is used to indicate which demographic categories are contributing to the differences found. In the case of the table on the right, significant differences are observed among all categories for each demographic characteristic measured.

Again Shading (□) is used to highlight the actual figure(s) which is/are contributing to the differences observed (two-tailed z-tests for proportions, p<.05). This highlights the primary distinctions between the demographic groups.

Table 14: Gambling Prevalence in Nova Scotia by Shared Service Area, Gender, Age, Income

		Risk For Problem Gambling (CPGI Score)				
		Non-Gamblers (n= 299)	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	Total Adults (n=2800)
Percentage of Adults in Nova Scotia:		*10.7%*	*82.5%*	*4.8%*	*2.1%*	*100%*
Shared Service Area (Health Districts): *						
DHA 9 (Capital) n=1185	♦	*9.8%*	*83.1%*	*4.9%*	*2.2%*	*100.0%*
DHAs 7 & 8 (Eastern) n=523	♦	*8.0%*	*84.5%*	*4.8%*	*2.7%↑*	*100.0%*
DHAs 4 5 & 6 (Northern) n=492	♦	*9.3%*	*84.3%*	*5.3%*	*1.0%↓*	*100.0%*
DHAs 1 2 & 3 (Western) n=600	♦	*15.8%↑*	*78.2%↓*	*4.2%*	*1.8%*	*100.0%*
Gender: *						
Male n=1325	♦	*10.8%*	*80.9%↓*	*5.8%↑*	*2.5%*	*100.0%*
Female n=1475	♦	*10.6%*	*84.0%↑*	*3.9%↓*	*1.6%*	*100.0%*
Age: *						
19-24 years n=248	♦	*9.3%*	*79.8%↓*	*8.5%↑*	*2.4%*	*100.0%*
25-34 years n=436	♦	*5.0%*	*84.4%*	*5.5%↑*	*3.4%↑*	*100.0%*
35-44 years n=673	♦	*5.2%*	*87.2%↑*	*4.8%↓↑*	*2.1%*	*100.0%*
45-54 years n=589	♦	*6.8%*	*86.2%↑*	*2.0%↓*	*2.2%*	*100.0%*
55-64 years n=411	♦	*16.1%↓↑*	*79.8%↓*	*2.7%↓*	*1.5%↓*	*100.0%*
65 years or older n=443	♦	*25.5%↑*	*72.7%↓*	*1.4%↓*	*.5%↓*	*100.0%*
*Annual Household Income:**						
<$30,000 (Low) n=668	♦	*15.1%↑*	*77.1%↓*	*5.5%*	*2.2%*	*100.0%*
$30-$59,999 (Mid) n=1008	♦	*10.6%↓↑*	*82.5%↓↑*	*4.8%*	*2.1%*	*100.0%*
$60,000+ (High) n=873	♦	*5.3%↓*	*87.9%↑*	*4.7%*	*2.2%*	*100.0%*

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

An arrow (↑↓) indicates if the percentage is higher or lower than the percentage found in the same column for any of the other Demographic categories (vertical comparison). This means that tests of significance are conducted among figures in the same columns. If both arrows are included, this indicates that a number is both significantly higher than another highlighted response and lower than a different highlighted response. In some cases, no arrow has been included. This indicates that other proportions may differ from this figure but that this figure itself does not vary consistently from estimates in the other categories. Readers are cautioned to look for patterns in the data rather than absolute relationships.

For example: Overall, risk for problem gambling decreases with age; as age increases, so too does the proportion of adults scoring at any risk for gambling problems. The percentage scoring for Problem gambling is significantly lower for adults aged 65 yrs+ (.5%) compared to all other categories but, for the most part, there are no other significant differences observed with the exception of those age 25-34 (3.4%) versus those age 55-64 (1.5%). For Household Income, while the percentage taking part in gambling increases with income, the percentage of adults scoring for any risk of problems is the same in all income segments.

RISK FOR PROBLEM GAMBLING BY SHARED SERVICE AREA

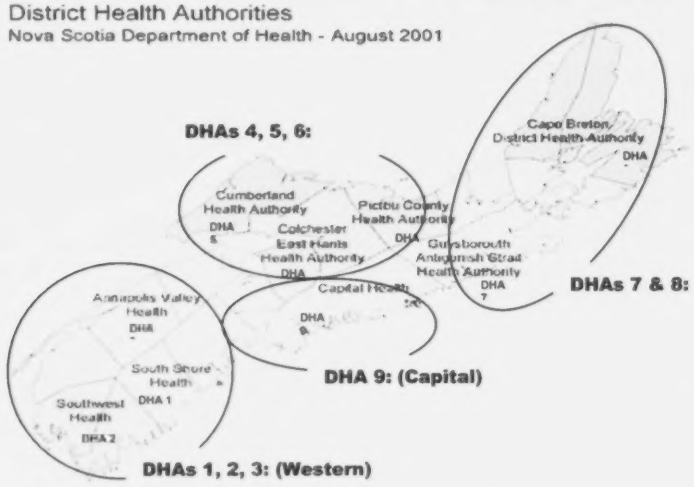
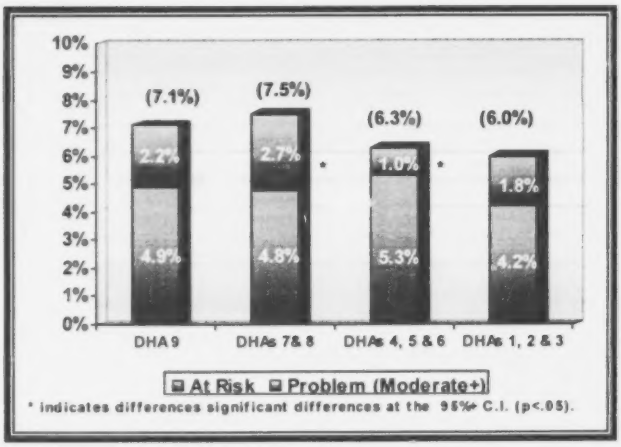


Figure 4: Risk for Problem Gambling by Shared Service Area (Total Adults; n=2800)

Significant differences in risk for problem gambling were observed among all of the demographic segments examined.



There are few differences observed in gambling risk among the four Shared Service areas for the 9 District Health Authorities (DHAs) in Nova Scotia.

The only notable difference is a significantly higher proportion of Non-Gamblers residing in DHAs 1, 2 & 3 (Western) as compared to other regions in the province (15.8% versus ≈ 8% to 10%). Although adults living in DHAs 1, 2 & 3 are less likely to take part in gambling activities (84.2% versus 90% to 92%), the percentage scoring at any level of risk is similar in all four Addiction Services Shared Service Areas.

The percentage of adults scoring <u>at any risk</u> is similar in all 4 Shared Service areas of the province. However, adults in DHAs 7 & 8, (Eastern NS including Cape Breton: 2.7%, ±1.26%) are significantly more likely to score at Problem levels than those living in DHAs 4, 5 & 6 (Northern; 1.0%, ±86%). The other two Shared Service areas fall between these values.

In terms of Problem Gambling, prevalence appears to be higher in DHA 9 (Capital; 2.2%) and DHAs 7 & 8 (Eastern; 2.7%) as compared to DHAs 4, 5 & 6 (1.0%) and DHAs 1, 2 & 3 (1.8%). However, the only statistically significance difference at the 95% confidence level was for comparison between DHAs 7 & 8 (Eastern; 2.7%) versus DHAs. 4, 5 & 6 (Northern; 1.0%). Differences in problem gambling levels between DHA 9 (Capital) and DHAs 4, 5 & 6

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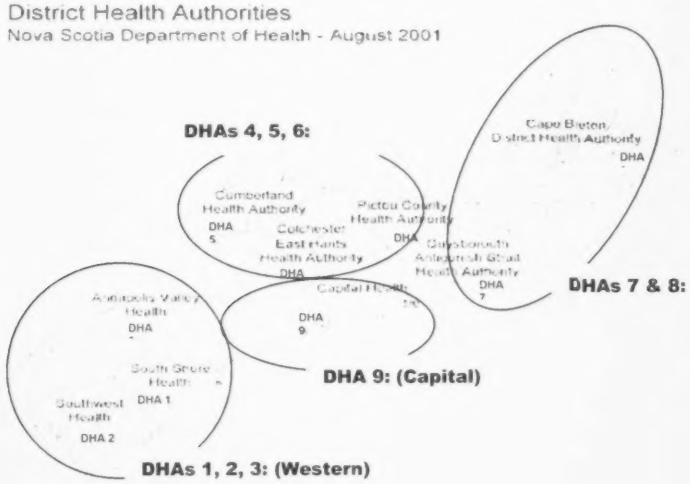

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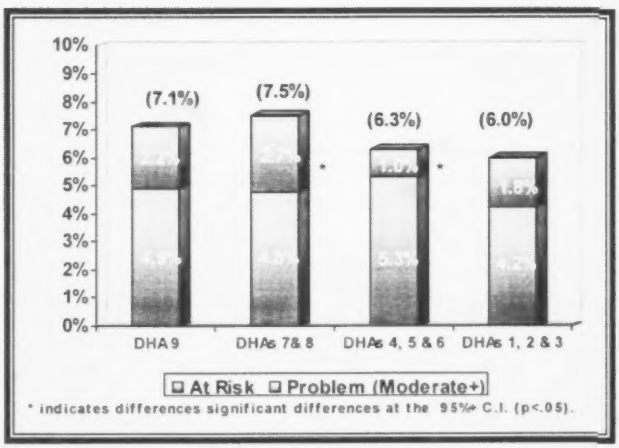

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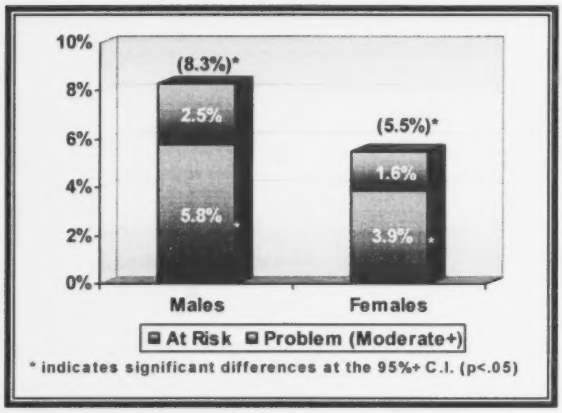
(Northern) only reached statistical significance at the 90% confidence level (2.2% versus 1.0%, p=.097). One distinguishing feature among the regions is the location of the Sydney Casino in DHAs 7 & 8 and the Halifax Casino in DHA 9. The skewed distribution of VLTs in urban areas of the province, in particular DHA 9 which includes Halifax, may also be an influencing factor.

RISK FOR PROBLEM GAMBLING BY GENDER

Figure 5: Risks for Problem Gambling by Gender (Total Adults; n=2800)



Risk is about 1.5 times higher among men in Nova Scotia as compared to women, yet women still comprise about 40% of those scoring at Problem levels for gambling.

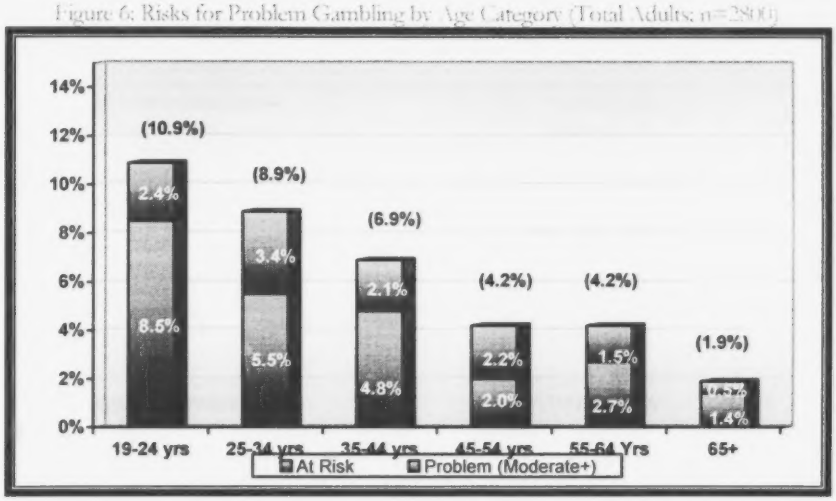
Men and women in Nova Scotia are equally likely to have gambled in the last year but for men, the risk for problem gambling is about 1.5 times greater (8.3% versus 5.5%). Men across the province have higher rates of those scoring "at risk" (5.8% versus 3.9%) although those scoring at Problem levels only reach the 90% threshold for statistical significance (2.5% versus 1.6%; p=.09).

Despite the skew towards males, women still comprise about 40% of all adults currently scoring for either problem or at risk gambling in the province.

RISK FOR PROBLEM GAMBLING BY AGE

The percentage of adults scoring At Risk for problem gambling declines with age. However, for adults under 65 years of age, the percentage scoring for Problem Gambling is fairly constant within all age groups.

Figure 6: Risks for Problem Gambling by Age Category (Total Adults: n=2800)



There is a strong relationship between age and gambling patterns. Overall risk for problem gambling declines with age, although the percentage scoring as Problem Gamblers is similar in all age categories with the exception of older adults (55 years +), especially those aged 65 years or older (.5%). For younger seniors (55 – 64 years) living in the province, prevalence of gambling problems only differs significantly from that observed among those age 25 to 34 years (1.5% versus 3.4%).

Part of the reason behind comparatively lower rates of problem gambling among seniors in the province is due to the fact that adults 55 years of age or older are less likely to take part in gambling activities as compared to those under age 55. Approximately 90% to 95% of adults under age 55 gambled during the last year as compared to 83.9% of adults aged 55-64 years and only 74.5% of adults 65 years of age or older. When problem gambling rates are calculated based only on those who gambled over the past year, the percentage of seniors in both age categories (55-64 years and 65 years +) scoring at Problem levels increases to **1.8%**. This level of problem gambling does not differ significantly from rates obtained for past year gamblers in any other age category (19-24 yrs: **2.7%**; 25-34 yrs: **3.6%**; 35-44 yrs: **2.2%**; 45-54 yrs: **2.4%**). This means that senior adults in Nova Scotia are at lower levels of risk for problem gambling largely due to the fact that they are less likely to gamble. However, when they do gamble, they are just as likely as adults in any other age category to experience problems.

Despite the similarity of problem gambling rates among all age groups in Nova Scotia, the proportion of those scoring as "At Risk" declines with age. For example, the percentage of 19 to 24 year olds scoring at risk for problems is 1.5 times higher than for those age 25-34 years (8.5% versus 5.5%) about 1.8 times higher than for those age 35-44 years (8.5% versus 4.8%)

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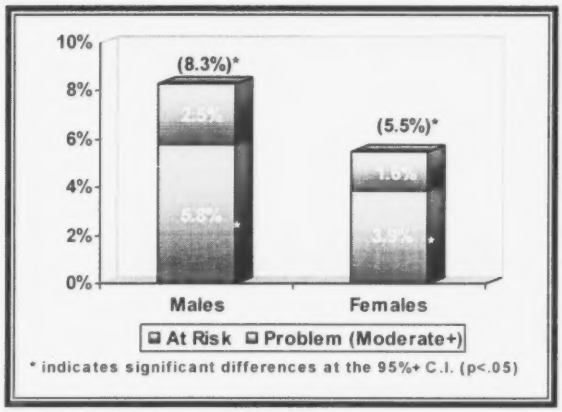

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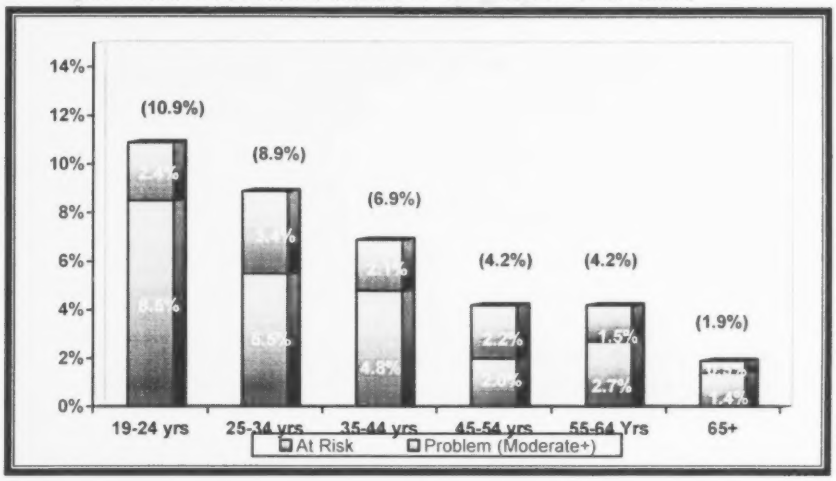

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and more than 4 times higher than adults over 45 years of age.(8.5% versus ≈ .2.0%) This declining risk most likely reflects lifestyle characteristics and current distribution strategies for gambling in the province. For instance, young adults in Nova Scotia (19-24 years) are more likely to be in venues or situations that expose them to higher risk forms of gambling (e.g., licensed establishments where VLTs are located). However, gambling may pose comparatively less risk for consequences for these youngest adults given "stage of life" factors (less likely to be married (4.4%), to have children or other dependants (10.5%), to be working full-time (43.1%) and thus to have shared savings, mortgages or other related responsibilities and resources that are vulnerable to gambling problems). While profiles of younger gamblers in Nova Scotia support both of these arguments, it is important to consider the results in the context of the adjacent age category of 25 to 34 year olds.

Problem gambling rates are significantly higher in the 25-34 year old age segment as compared to seniors in the province (55 yrs+).

This age cohort reached the "age of majority" at a time of rapid growth in gaming options and accessibility, in particular the introduction of VLTs and Casino gaming.

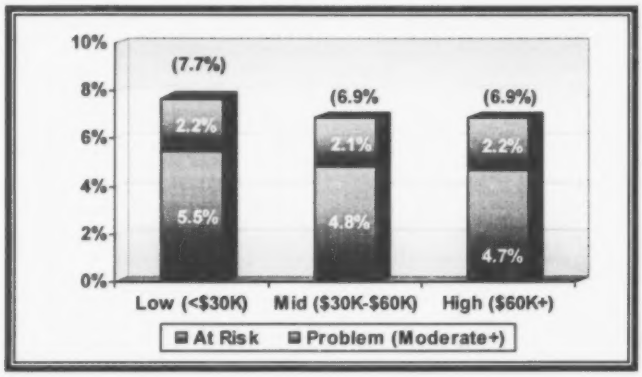
The results suggest that increased risk traditionally observed among young adults has translated into higher prevalence rates as the group has aged. Given greater family, professional and financial responsibilities for this age cohort as compared to those aged 19-24, problem gambling can be assumed to have more significant implications at a family, household and community level.

The prevalence of problem gambling has remained fairly stable within all other segments as they have aged. Therefore, it can be expected that increased risk and prevalence among younger adults (<35 years) in the province will also hold steady as they grow older. If this occurs, it will lead to increased problem gambling rates in the province over time.

In Nova Scotia, this age cohort (those born 1969-79) came of legal age to gamble and drink from 1988 to 1998, during a period of rapid gambling expansion and, most importantly, the introduction of electronic gambling machines (VLTs, Slots) and other forms of continuous gambling options (e.g., Casino Gambling, Scratch 'n Wins) in the province. This group of adults is now aged 25 to 34 years, two-thirds are married or in a spousal relationship, 50% have children under 19 years of age living in their household, almost three-quarters are employed in fulltime jobs (74%). Thus, gambling problems can be expected to have more significant consequences at a personal, household and community level than would be the case for adults currently age 19-24 years. At the time of the 1996 NS Prevalence Study (7 years ago), this group of 25 to 35 year olds largely comprised the youngest age category of 19-24 year olds in the province identified at highest risk for problem gambling. As these adults have aged, it appears that increased risk has translated into increased prevalence for problem gambling and this rate is significantly higher than observed for older adults in the province (3.4% versus 55 yrs+: 0.5% to 1.5%). As this age cohort continues to move along the age continuum (i.e., grow older) elevated prevalence for problem gambling is likely to be an accompanying characteristic. The potential impact and negative consequences of problem gambling may be relatively more serious for those 25 to 34 years of age as compared to younger adults (19 to 24 years). Therefore, increased problem gambling rates among the former group of adults (25 to 34 year olds) may be contributing to growing public concern surrounding gambling and stimulating demands for action and support services.

RISKS FOR GAMBLING BY INCOME

Figure 7: Risks for Problem Gambling by Income (Total Adults; n=2800)



Annual Household Income was only found to be related to general involvement in gambling, with no differences among any of the income groups in terms of problem or risk for problem gambling. The likelihood of having taken part in some type of gambling activity over the past year increases with annual household income, although the majority in all income brackets had gambled in the 12 months preceding the survey (Low: 85%; Mid: 89%; High: 95%). For those in the highest income bracket ($60K+), this increased involvement did not translate into greater risk but rather into higher rates of No Risk gambling as compared to those with household incomes under $30,000 per year.

In Nova Scotia, the percentage of adults "At Risk" or scoring for Problem Gambling is fairly indiscriminate in terms of annual household income, with adults in all segments equally likely to fall in either category.

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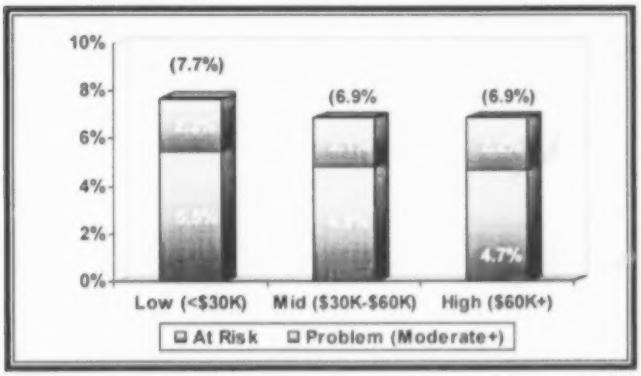

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Section 3

2003 Measure of Gambling and Problem Gambling in Nova Scotia

General Gambling Involvement

Section 3 provides a general overview of current involvement in gambling activities in Nova Scotia for all adults and by risk for problem gambling (CPGI). This information is intended to position prevalence results within the context of gambling behaviour, at large, in the population.

Risk For Problem Gambling (CPGI Score)
Non-Gamblers (n=299)
No Risk (Score=0) (n=2,311)
At Risk (Score 1-2) (n=134)
Problem (Score 3+) (n=56)

GAMING ACTIVITIES MEASURED
Lottery Tickets:
• Daily Draws
• Weekly Draws
• Scratch 'n Wins
• Break-opens
Charity Raffles/Draws
Sports Betting:
• ALC Sport Lottery
• Other Sport Bets/Pools
Bingo
VLTs
Casino Gaming:
• Slots
• Table Games
Horse Racing (e.g., Harness)
Card Games (non-casino)
Games of Skill (e.g., personal bets, wagers)
50/50 Draws
Internet Gambling
Others (not mentioned above)

All adults participating in the survey were asked for detailed play behaviours for 17 different types of gambling activities available in Nova Scotia (Refer to Appendix X – Questionnaire: Section A).[28]

For each activity, the information gathered included:

- whether or not it is considered to be a gambling activity
- trial (ever played)
- regular play patterns (ever and current regular)
- frequency of play/purchase in the last year (daily, weekly (1+ times/wk), monthly (1+ times/month), occasionally (< than once/month), rarely (once-twice/year), seasonally, did not play/purchase in last year)
- number of times played/purchased per week, per month or per year
- amount spent per time (or per year)
- number of times played/purchased in last month
- ever experienced problems with amount of time or money spent and whether or not problems had been resolved (Self-reported problems with time or money spent gambling)

The information was used to derive overall gambling profiles and expenditure estimates as well as detailed profiles for each gambling activity for adults and by risk for problem gambling.

[28] There were 18 activities measured in the survey, including Day Trading/Stocks described as *"Short term speculative stock or commodity purchases, such as day trading (not including long-term investments, such as Mutual Funds or RRSPs)"*. There were 56 individuals (2%) who reported taking part in this activity at least once during the past year, however, involvement levels and expenditures varied widely and given the volume of trading reported by some respondents (n=11) it was difficult to determine actual spend levels (losses versus gains). Moreover, these responses had a significant and disproportionate impact on other category expenditure estimates. In 3 cases, this activity was reported as the individual's primary occupation. Given fundamental differences between this type of speculative "investment" and the other gambling activities measured, the category was excluded from the analysis of gambling activities but can be revisited for independent evaluation.

Gambling Participation

Table 15: General Participation in Gambling by Risk for Problem Gambling (CPGI)

	Risk For Problem Gambling (CPGI Score)				
	Non-Gamblers (n=299)	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	Total Adults (n=2800)
Percentage of Adults in Nova Scotia:	10.7%	82.5%*	4.8%	2.1%	100%
Ever gambled	69.9%*	100%	100%	100%	96.8%
Gambled in last year	NA	100%	100%	100%	89.3%
Gambling Status in Past Year:					
Casual Gamblers (less often than once per month)	NA	40.2%*	14.9%	7.1%	34.0%
Regular Gamblers:	NA	59.8%*	85.1%	92.9%	55.3%
Regular Monthly Gamblers (at least 1+ times per month)	NA	25.1%*	21.8%	14.3%*	22.0%
Regular Weekly Gamblers (at least 1+ times per week)	NA	34.7%*	63.3%*	78.6%*	33.3&
Average Annual Gambling Expenditure:					
Total Adults	NA	$427.07*	$1787.47*	$6981.41*	$577.66
Total Gamblers (played in last year)	NA	$427.07*	$1787.47*	$6981.41*	$646.72
Regular Gamblers (play 1+ times per month)	NA	$670.79*	$2062.7*	$7463.56*	$1001.47
Average Number of Gambling Activities:					
Average number played per year	NA	3.65*	5.63	6.09	3.40
Average number played regularly	NA	1.00*	2.13*	2.80*	.99
Self-Reported Problems with Gambling:					
Ever experienced a problem	.7%	.9%	9.0%	66.1%*	2.5%
Currently experiencing problem	N/A	.1%	3.0%	55.4%*	1.4%

* indicates significant difference at minimum 95% + confidence interval ($p < .05$)

Consistent with previous findings in Nova Scotia and elsewhere in Canada, gambling is a pervasive activity. Almost all adults in Nova Scotia have wagered money on a game of chance at some time (96.8%) with the vast majority (89.3%) having gambled in the last year spending, on average, about $647.00.

Adults are more likely to be involved in gambling on a regular (55.3%) rather than casual (34.0%) basis with 92% of gambling revenues in the province coming from those who gamble each and every month.

More importantly, it appears that about 40% of gambling expenditures (losses) are coming from those who are scoring at some level of risk for problem gambling (6.9% of adults in the province).

About 2.5% (± .58%) of Nova Scotian adults report having ever experienced problems with some type of gambling, with just over half of these same people continuing to report problems (1.4%, ± .43%).

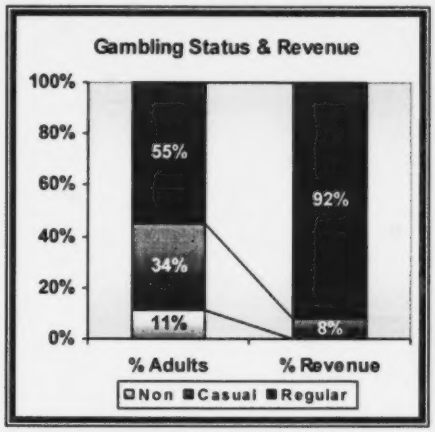
Similar to results elsewhere in Canada, it can be estimated that almost all adults in Nova Scotia have wagered money on a game of chance at some time (96.8%) with 89.3% having taken part in some type of gambling activity within the twelve months preceding the survey, on average spending about $647.00 per gambler over the last year (representing gambling expenditures of ≈ $578.00 per adult in Nova Scotia). The majority of gambling expenditures are allocated to government regulated activities (95%, ≈ $548/adult) with about $30.00 per adults spent on non-regulated gambling primarily card games, sports betting and personal wagers on games of skill.

Not surprisingly, frequency of play increases with risk for problem gambling. Those at No Risk for problem gambling are more likely to be playing at casual levels (40% versus 7% to 15%) and least likely to gamble on a regular weekly basis (35%), generally taking part in fewer different games.

In contrast, 79% of those scoring at Problem Gambling levels for problems are involved in about three gambling activities once a week or more, spending at rates over 10 times higher than No Risk gamblers, on average, about $620/month or $100 - $200/wk and of whom about 55% are self-reporting a gambling problem.

At Risk Gamblers fall midways between. They are gambling almost as often as Problem Gamblers and spending at rates about twice as high as their No Risk counterparts, but are not currently reporting significant levels of personal concern or consequences associated with their gambling.

Figure 8: Gambling Status & Revenue Contribution



Over half of all adults (55.3%) are taking part in gambling on a regular basis each month, with one-third typically gambling once a week or more. Based on reported play behaviours, it can be calculated that these Regular Gamblers spend about $1,000.00 per year and currently account for 92.3% of gambling revenues in the province of Nova Scotia. In contrast, the one-third of adults who gamble on only an occasional basis throughout the year spend about $40.00 annually on gambling and contribute only 7.6% of revenues.

Frequency of gambling differs significantly by Risk for problem gambling. Adults who take part in gambling and are currently at No Risk for developing problems are more likely to report casual play patterns (40.2%) than either At Risk (14.9%) or Problem Gamblers (7.1%). Conversely, those at any level of risk for problem gambling are equally likely to be involved in regular monthly playing patterns (85% to 93%) with those identified as Problem Gamblers significantly more likely to gamble on a regular weekly basis (78.6% versus At Risk: 63.3%, No Risk 34.7%). Therefore, simple frequency of play can be a strong indicator of an individual's risk for experiencing problems and obviously contributes in part to the differences observed in expenditure among the various risk segments.

While both At Risk and Problem Gamblers tend to wager on about 5 to 6 different types of gambling activities throughout the year, on average, Problem Gamblers are involved in about 3 different types of gambling on a regular basis as compared to 1 to 2 forms of gambling by At Risk or No Risk Gamblers. Even among those who gamble regularly, expenditure levels are over twice as high for At Risk Gamblers (≈ $2,000/year) versus those at No Risk (≈ $670/year), and more than 10 times higher among those scoring for Problem Gambling (≈ $7,500/year).

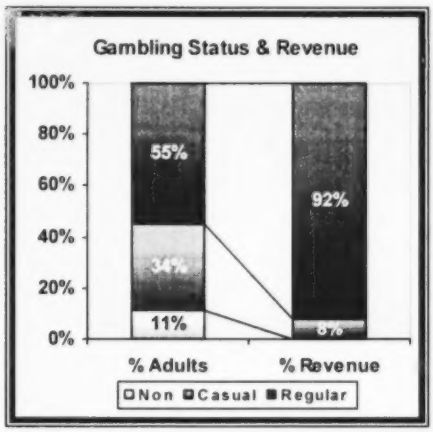
Changes in Gambling Participation Rates

Compared to 1996 there has been no change in the percentage of adults taking part in at least one gambling activity (1996: 92 versus 2003: 89%), although the average amount spent on regulated gambling per adult in Nova Scotia has increased by about 32% moving from ≈ $415.00/adult to ≈ $548.00/adult .

Not surprisingly, frequency of play increases with risk for problem gambling. Those at No Risk for problem gambling are more likely to be playing at casual levels (40% versus 7% to 15%) and least likely to gamble on a regular weekly basis (35%), generally taking part in fewer different games.

In contrast, 79% of those scoring at Problem Gambling levels for problems are involved in about three gambling activities once a week or more, spending at rates over 10 times higher than No Risk gamblers, on average, about $620/month or $100 - $200/wk and of whom about 55% are self-reporting a gambling problem.

At Risk Gamblers fall midways between. They are gambling almost as often as Problem Gamblers and spending at rates about twice as high as their No Risk counterparts, but are not currently reporting significant levels of personal concern or consequences associated with their gambling.



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Despite strong growth in revenue since the 1996 NS Gambling Prevalence Study, there have been no significant increases in the percentage of adults taking part in any gambling activity in the province. In fact, the only changes in past year participation rates between the two measurement periods was a decline in the percentage of adults purchasing instant lottery tickets or gambling at the casino. This indicates that revenue growth is largely due to an increase in the amounts that gamblers are spending rather in the acquisition of more players.

Table 16: Past Year Participation Rates (1996 versus 2003)

Type of Gambling	1996 (n=801)	2003 (n=2800)
Any Gambling	**92%**	**89%**
Lottery Draws	73%	74%
Charity Raffles/Draws	68%	65%
Instant Tickets (S'nWs, Break-opens)	65%	↓50%
VLTs	21%	19%
Casino Slots	29%	↓22%
Casino Other	6%	↓4%
Bingo	14%	15%
ALC Pro Line	5%	5%

The only changes in past year gambling participation rates between 1996 and 2003 was a decline in the percentage of adults in Nova Scotia having purchased any Instant lottery tickets (1996: 65% versus 2003: 50%) and a decline in the percentage of adults gambling on slot machines (1996: 29% versus 2003: 22%) or Casino table games (1996: 6% versus 2003: 4%). For all other forms of gambling, the percentage of adults taking part in the past year was not observed to change between the two measurement periods.

Self-Reported Problem Gambling

For each form of gambling measured in the survey, all respondents who have ever tried the activity were asked a series of questions regarding problems experienced with the amount of time or money spent on the activity. [29] (Refer to Appendix B - Interviewer Booklet)

j) Have you now or in the past **ever** felt you were having a problem with the amount of time or money you have spent playing_____?

YES - Time	1 - **CONTINUE**
YES - Money	2 - **CONTINUE**
YES - Both	3 - **CONTINUE**
NO	0 – **GO TO Q #**
(Don't know)	9 – **GO TO Q #**

[29] For a detailed rationale as to the selection of "time" and "money" as principal designations for defining problems, readers are referred to the 1997/98 NS VL Players Survey and 2000 Regular VL Players Follow-Up Study conducted by Focal Research Consultants for the Nova Scotia Department of Health (www.gov.ns.ca/health/reports.htm). The definitions were developed and tested by Focal Research for use as one of three measures comprising the PGTM (Problem Gambling Triangulation Method for problem gambling identification). The measure was designed after conducting primary research with both social non-Problem Gamblers and those involved in heavy or problematic play. The questions are not intended to identify or diagnose problem gambling but rather are clear concise terms easily and consistently understood by respondents and, therefore, were able to be systematically applied to each of the various types of gambling activities measured as a relative measure of "problems" associated with each.

k) **IF YES:** Have you solved your problems with your play of _____ or is it still a concern to you? **(READ LIST)**

Completely solved	1 - **CONTINUE**
Partially solved	2 - **GO TO Q # m**
Still a problem	3 - **GO TO Q # m**

l) **IF COMPLETELY SOLVED:** How long ago did you solve your problems with your play of _____?

m) **IF PARTIALLY SOLVED OR STILL A PROBLEM:** For approximately how long has this been a problem for you?

Based on the results of the current study, it can be estimated that about 18,000 adults in Nova Scotia have ever believed they were experiencing problems with their gambling, of which about 10,000 are continuing to experience difficulties.

The majority of those adults self-reporting past (64%) and present (71%) problems with gambling tend to associate their concerns with a single, specific type of gambling rather than reporting problems across the whole range of gambling activities in which they are involved.

Just over half (55.4%) of gamblers scoring for Moderate to Severe Problems in Nova Scotia are also self-reporting problems with gambling. While two-thirds admit to having ever had problems, about one-quarter of these gamblers feel they have managed to resolve the issue, with the majority continuing to struggle with the issue.

Overall, 2.5% (±.58), representing approximately 18,000 adults across the province, indicate that either now or at some time in the past they have had a problem with the amount of time or money spent on gambling. Just over half of these same people (1.4%, ± .43%) report current problems, suggesting that about 10,000 adults in Nova Scotia are admitting to personal concerns surrounding some aspect of their gambling.

Almost two-thirds of those who self-report having ever had a problem with gambling are associating the problem with only one form of gambling (1.6% of adults), 24% indicate problems with 2 types of gambling activities (.6% of adults) and only 12%, representing .3% of adults, report problems with 3 or more forms of gambling.

Current gambling problems in Nova Scotia are even more strongly skewed towards a single type of gambling activity, primarily VLTs and Slot machines (70% of those who report having a current problem with gambling, 1.0% of adults). About 20% (.3% of adults) indicate two forms of gambling associated with problems, while only .1% of all adults report problems involving 3 or more different forms of gambling. This suggests that, in Nova Scotia, adults' perceptions about their own gambling problems tend to be more "activity" specific rather than general in nature. Just under half of those who feel they have ever had a problem with their gambling (1.1% of adults) also believe they have successfully resolved the issue, representing about 8,000 adults across the province who report having overcome a problem with their gambling.

Self-Reported Gambling Problems by CPGI Risk for Problem Gambling

	Risk For Problem Gambling (CPGI Score)				
	Non-Gamblers (n=299)	**No Risk (Score=0) (n=2311)**	**At Risk (Score 1-2) (n=134)**	**Problem (Score 3+) (n=56)**	**Total Adults (n=2800)**
Self-Reported Problems with Gambling:					
Ever experienced a problem	*7%*	*9%*	*9.0%*	*66.1%**	***2.5%***
Currently experiencing problem	*N/A*	*.1%*	*3.0%*	*55.4%**	***1.4%***

* indicates significant difference at minimum 95% + confidence interval ($p < .05$)

Two-thirds of those scoring at problem levels on the CPGI also self-report having ever had a problem with at least one form of gambling at some time, with just over half (55.4%) self-reporting that they are currently having problems with some type of gambling.

This is in strong contrast to self-reported problems by adults falling in the other CPGI risk segments. Only 9% of At Risk Gamblers have ever felt they were having a problem related to their gambling, with two-thirds of these same adults believing that they have successfully resolved the issue and only one-third (3% of all those scoring At Risk) continuing to report any on-going concerns.

The vast majority (87%) of those gamblers in Nova Scotia who are self-reporting a gambling problem are also scoring at Problem levels on the CPGI. This suggests that the CPGI is an effective screen for those who are already concerned about a gambling problem. However, about 13% of people who believe they currently have problems with some form of gambling are only triggering as being at Low or No Risk levels.

Of those who report having successfully resolved a gambling problem, only 6% are totally abstaining from any gambling activities.

Only about 1% of No Risk (.9%) and Non-Gamblers (.7%) feel that they have ever had a problem with the amount of time or money spent on any gambling activity and almost none of these same individuals are reporting any current problems (.1% of No Risk Gamblers).

This means that 84% of Problem Gamblers who self-reported having ever had a gambling problem are still continuing to struggle with the issue.

Table 17: Risk for Problem Gambling (CPGI) by Self-Reported Problems and Resolution

	Ever Had a Gambling Problem (n=71)	Have Resolved a Past Problem (n=33)	Continue to Have a Current Problem (n=38)
Non Gamblers	3%	6%	NA
No Risk Gamblers	25%	52%	3%
At Risk Gamblers	17%	24%	10%
Problem Gamblers	55%	18%	87%
Total	100%	100%	100%

To gain additional insight as to what types of gamblers are experiencing problems, and the profiles of those able or unable to resolve their problems, the data were examined by the CPGI Risk Segments.

Adults scoring at Problem levels on the CPGI comprise about 55% of all those who report having ever had a problem with any form of gambling in the province and represent 87% of those adults currently identifying some aspect of their gambling as problematic.

About 17% of those who report they have ever had a problem with some form of gambling are currently scoring as At Risk Gamblers on the CPGI. These adults comprise 24% of respondents who feel that they have successfully resolved their gambling problems and only 10% of adults self-identifying for a current gambling problem.

No Risk Gamblers account for about 25% of all those who have ever had a problem and just over half of gamblers who have been able to successfully resolve their problems. Only 3% of adults who report having current problems are scoring as No Risk Gamblers on the CPGI.

The prevalence of self-reported problems is too low to profile within each of the risk segments. However, the results suggest that those individuals most likely to seek out assistance in Nova Scotia for a self-recognized problem are largely being identified as Problem Gamblers by the CPGI. This also indicates that those scoring at Problem Gambling levels are a key target group for intervention and treatment.

Involvement by Type of Gambling Activity

Table 18 Gambling Involvement by Type of Gambling Activity (Total Adults)

	Total Adults (n=2800)					
	Consider a Gambling Activity	Ever Gambled on activity	Gambled in last year	Regular Monthly Gambling	Ever had a Problem	Current Problem
Any Game of Chance:	**NA**	**96.8%**	**89.3%**	**55.3%**	**2.5%**	**1.4%**
Lottery Tickets Total:	**NA**	**88.2%**	**79.1%**	**44.5%**	**.8%**	**.5%**
Daily Lottery (Atlantic Keno)	*86.1%*	*9.0%*	*6.4%*	*2.1%*	*1%*	—
Weekly Lottery Draws (e.g., Lotto 6/49, Super 7)	*88.0%*	*81.1%*	*71.4%*	*37.4%*	*3%*	*2%*
Scratch 'n Win Instant Tickets	*88.8%*	*62.1%*	*48.4%*	*15.4%*	*4%*	*3%*
Break-opens	*87.3%*	*26.3%*	*14.2%*	*3.4%*	*1%*	—
Sports Betting Total:	**NA**	**19.1%**	**10.8%**	**2.2%**	**.1%**	**.0%**
ALC Sport Select (e.g., Pro Line, Over-Under)	*87.3%*	*7.7%*	*4.5%*	*1.6%*	*1%*	—
Other Sports Betting (non-ALC)	*87.9%*	*14.3%*	*7.5%*	*.7%*	*1%*	—
Video Lottery	**98.8%**	**36.7%**	**19.0%**	**5.1%**	**1.3%**	**.8%**
Bingo	**87.8%**	**55.6%**	**15.3%**	**5.5%**	**.5%**	**.1%**
Any Casino Gambling:	**NA**	**45.6%**	**23.3%**	**1.9%**	**.6%**	**.4%**
Slot Machines at Casino	*98.7%*	*44.2%*	*22.2%*	*1.6%*	*4%*	*3%*
Casino Table Games	*98.9%*	*10.6%*	*4.4%*	*.4%*	*3%*	*1%*
Charity Raffles/Draws	**41.1%**	**78.2%**	**64.5%**	**7.6%**	—	—
Card Games outside of a Casino	**80.5%**	**41.9%**	**16.9%**	**3.8%**	**.1%**	—
Games of Skill (e.g., pool, darts, golf)	**79.8%**	**9.6%**	**4.6%**	**.8%**	—	—
50/50 Draws	**75.6%**	**55.1%**	**39.3%**	**12.9%**	—	—
Horse Racing/Harness Racing	**96.6%**	**12.9%**	**1.3%**	—	—	—
Internet Betting/Gambling	**91.0%**	**.4%**	**.2%**	—	—	—
Other gambling activities	**NA**	**.5%**	**.2%**	—	—	—

With the exception of Charity Raffles and Draws (41%), the majority of adults (75%+) taking part in the study considered all of the other forms of gaming measured to be "gambling activities", especially (97%+) Video Lottery, Casino Slots and Table games, horse racing and, to a lesser extent, Internet Gambling (91%).

For each gambling activity measured in the study, participants were specifically questioned to obtain detailed play behaviours. If they had ever taken part in the activity, they were questioned further to determine whether or not they had ever experienced any problems with the amount of time and/or money spent on this gambling activity, whether or not they had successfully resolved their problems, and either how long ago the problem was resolved or the length of time they had been experiencing problems with this form of gambling.

Perception of Activity as Gambling

Lottery tickets, both ALC and Charity Raffles and Draws, are by far the most popular games of chance in terms of trial (ever purchased) and play in the last year, with ALC lottery tickets driving the majority of regular playing patterns in the province (44.5% of adults).

The majority of adults participating in the study (75%+) believe that all of the various gaming options measured represent "gambling" activities. The only exception was for Charity Raffles and Draws (non-ALC tickets), for which almost 60% of adults did not equate these types of fund-raising lotteries with gambling.

For about one-fifth to one-quarter of adults in the province, 50/50 Draws (24%), personal involvement in non-regulated card games (20%) or bets of skill (e.g., wagers on outcomes based on personal skill (20.2%) are also not perceived to be "gambling". However, there is consensus (97%+) that Video Lottery, Casino Slots and Table games, horse racing and, to a lesser extent, Internet Gambling (91%) all constitute gambling activities.

Participation Rates by Type of Gambling Activity

LOTTERY TICKETS OVERALL

Collectively, about .8% (±33%) of adults report having ever experienced problems with any type of lottery ticket game, with about .5% (±20%) or 3,600 adults still expressing concerns about the amount of time or money they are spending on the activity.

Atlantic Lottery Corporation (ALC) lottery tickets are by far the most popular game of chance in Nova Scotia and are associated with the majority (88.5%) of gambling over the past year. Almost 80% of adults have purchased a lottery ticket during the 12 months preceding the survey with 44.5% taking part in a regular monthly basis, especially for weekly draw tickets such as Lotto 6/49, Super 7 type tickets (37.4% of adults are playing regularly). Regular play of weekly lottery draws is at least twice as high for any other gambling activity available in Nova Scotia.

WEEKLY DRAW TICKETS

At least twice as many adults in Nova Scotia buy lottery Draw tickets on regular basis compared to any other type of gambling (37.4% versus 15.4% or less). Yet, only .2% (≈ 1,500 adults) currently believe they are spending too much on the activity and that they have not yet solved their problem.

Collectively, about .8% (± .33%), representing about 5,750 adults in Nova Scotia, report having ever experienced any problems with the amount of time or money being spent playing any lottery ticket games of which almost two-thirds (.5%, ± .26%) are continuing to experience some degree of difficulty. Despite the fact that Draw ticket games have the highest rates of trial (88%), yearly participation rates (71%) and regular play (37.4%), only .3% (± .20%) of adults indicate they have ever had a problem with this type of gambling and .2% report current problems (± .17%; representing approximately 1,500 adults across the province).

SCRATCH 'N WINS

Scratch 'N Wins appear to pose greater risks to players then other types of lottery tickets games. Although participation levels are half that noted for Draw games, a similar proportion of adults report current problems with these instant games (.3%; 2,200 adults).

Scratch 'n Win instant lottery games appear to pose greater risk than weekly Draw type tickets, although a similar percentage of adults in the province are currently self-identifying problems with either type of ticket game (.3% and .2% respectively). Compared to lottery Draws, fewer adults purchased the instant games in the past year (48.4% versus 71.4%) and less than half as many adults report regular monthly purchasing (15.4% versus 37.4%), yet the percentage of adults reporting problems is at comparable levels. In fact, about half of all reported problems with lottery ticket purchases are attributed to the Scratch 'n Win product.

DAILY LOTTERY DRAW (KENO ATLANTIC)

The new daily Lottery ticket, Keno Atlantic was only launched six months prior to data collection for the Prevalence Study but has already generated some difficulties for the small proportion of adults who have tried the gamea although this only translates into .1% of all adults at present.

Only 9% of adults in Nova Scotia have ever tried a daily lottery Draw ticket with only 6.4% reporting any purchases since Keno Atlantic was introduced in October 2002. About one-third of these past year players are purchasing on a regular monthly basis (2.1% of adults) with .1% of adults already reporting they have experienced problems with play of this new game, despite the fact it had only been available for about six months at the time the survey was conducted.

CHARITY RAFFLES AND DRAWS

Charity Raffles/Draws are the second most commonly reported game of chance with 64.5% of adults having purchased such tickets in the past year. However, these tickets are played regularly each month by only 7.6% of adults in the province, with no one in the current study having experienced any difficulties with this type of gambling activity. Given that 60% do not even perceive these types of fund raising activities to be "gambling" and the low level of regular involvement, it appears that, despite high overall rates of participation, non-ALC raffles and draws are presently a low risk gambling choice for adults in the province of Nova Scotia.

Charity tickets and 50/50 draws have higher rates of past year or regular monthly play than either VLTs or Casino gambling, however, adults report little to no problems associated with their involvement in these types of activities. Thus both types of gambling currently present little risk to adults in the province.

50/50 DRAWS

This also seems to be the case for 50/50 Draws, which are participated in by a relatively high percentage of the population each year (39.3%) but are not currently associated with any problems. Regular play of 50/50 Draws (12.9%) is somewhat higher than that observed for most of the other games of chance measured, a rate similar to that found for Scratch 'n Wins (15.4%). Since regular play is most strongly associated with problem development, as these informal types of gambling become more accessible on a regular basis, risk for problems may also increase. However, at present, relatively high participation rates for 50/50 type draws has not translated into problems for those taking part in the activity.

CASINO GAMBLING

Past year participation in Casino gambling is now ranked second to lottery ticket games in terms of government operated gambling. Unlike the results for more provincially accessible forms of gambling, participation levels are not as strongly skewed towards regular playing patterns. However, more than a quarter of those who are self-reporting problems with gambling in Nova Scotia are citing Casino gambling as the source, in particular Slot Machines for which .3% (≈ 2,200 adults) are reporting current problems.

The next most popular form of gambling in Nova Scotia is Casino gambling (23.3%) with Slot Machines accounting for the vast majority of participation at casinos over the past year (22.2% of adults). In contrast only 4.4% of adults took part in any Table games. The percentage of adults who have ever tried Slot Machines now exceeds that observed for Video Lottery (44.2% versus 36.7%), with past year participation rates (23.3%) similar to VLTs (19.0%) and exceeding Bingo (15.3%) and participation in unregulated card games (16.9%). However compared to both Video Lottery (5.1%) and Bingo (5.5%), rates of regular gambling for casino Table games (.4%) or Slots (1.6%) are significantly lower. Despite lower regular involvement by adults, approximately .6% of adults report problems with their Casino gambling at some time, with .4% self-reporting current problems. The majority of the problems experienced in casinos are driven by Slot Machines (.3%), primarily due to higher participation rates for the machines over the Table games. Those gambling at the Casino Tables are even more likely to have experienced problems but will comprise a smaller proportion of the population at large, due to fewer people

Response towards Video Lottery has remained fairly stable in Nova Scotia compared to previous measures suggesting that there have been no significant changes in trial or regular playing patterns since the new machines were introduced in 2001, although past year participation rates are now lower. VLTs continue to be associated with over half of all past (1.4%; ≈ 10,000 adults) and current self-reported gambling problems (.8%; ≈ 6,500 adults), despite the fact that only about 5% of adults are regularly involved in the activity each month.

taking part in the activity (.4% of adults report ever having a problem with .1% reporting current problems).

VIDEO LOTTERY

Participation in Video Lottery has remained relatively stable over previous measures in Nova Scotia with about 37% having ever tried the machines, about one in five adults having played in the last year (19.0%) and 5.1% playing on a regular and continuous monthly basis over the past year[30]. Compared to results in the 1997/98 Nova Scotia Video Lottery Players Survey, the only significant change observed was a decline in past year participation rates (1998: 23% versus 2003: 19%). This suggests that fewer adults have played the machines in the last year, although the percentage of regular monthly players has not changed significantly (1998: 5.7% versus 2003: 5.1%). Undoubtedly, response to VLTs is driving the majority (56%+) of self reported gambling problems in the province with 1.4% (± .44%) or about 10,000 adults having ever experienced problems with video lottery, and .8% (±.33%) or about 6,500 adults reporting current problems. This rate of self-identified problem gambling is at least twice as high for Video Lottery than for any other type of gambling in the province, including Casino gambling in general (.4%), Slot Machines specifically (.3%) and Scratch 'n Win tickets (.3%). This means that almost 60% of those who feel they have ever experienced a problem with Video Lottery are continuing to experience difficulties, with about 40% indicating they have successfully resolved their VL problems.

BINGO

Although just over half (55.6%) of all adults have played Bingo at some time in the past, only 15.3% took part in the last year with 5.5% playing regularly each month. Similar to results for VLTs, there have been no significant changes in playing patterns for Bingo since the 1996 Prevalence Study, although revenue figures suggest that Bingo expenditures are generally declining. Past rates of self-reported problems (i.e. ever had a problem) with Bingo (.5%) are comparable to levels observed for Casino gaming (.6%), Scratch 'n Wins (.4%) and lottery Draw tickets (.3%). However, current rates for self-reported problems are low at .1% of adults.

SPORTS BETTING

Collectively, approximately 19.1% of adults in Nova Scotia have wagered on either ALC's Sports Lottery (7.7%) or other non-regulated sports betting, including pools and personal/private wagers (14.2%). In the past year, 10.8% participated in this type of gambling with very little overlap between those responding to the ALC product (4.5%) versus other

[30] In the 1997/98 Nova Scotia Regular VL Players Survey it was estimated that approximately 38.5% of all adults in Nova Scotia had ever tried VLTs, approximately 23% played in the past year, with 5.7% identified as regular VL gamblers. At that time, 1.4% of adults had reported having ever experienced difficulties with this form of gambling with .9% identified as having current problems.

sports betting (7.5%), suggesting that these two types of sports betting may be targeting distinct groups in the population. While significantly more adults took part in non-regulated sports wagering, regular involvement is over twice as high each month for ALC Sport Lottery (Pro Line, Over/Under, 1.6% versus .7%) reflecting more continuous access to the product as compared, to the seasonality of other non-regulated, or informal sports betting. As noted for Casino Table games, low levels of involvement in the general population result in insufficient sample sizes to accurately assess problem development among the regular player base for this type of gambling. Regardless, the percentage of adults reporting problems is currently low for both forms of sports betting available in the province (.1% of adults) although due to the low occurrence of sports betting in the population the sample size may be insensitive to accurately detect risk levels within this small select group of regular sports bettors.

Most other forms of gambling available in the province of Nova Scotia are either not being associated with current problems (e.g., non-regulated card games, personal bets or wagers on games of skills, sports) or participation rates are too low to yield sufficient sample sizes to accurately assess risk within the player base (e.g., Sport Select, Internet gambling). Regardless, the outcome is the same, such that the other forms of gambling are not having a significant impact on the self-reported gambling problems in Nova Scotia.

CARD GAMES (OUTSIDE OF A CASINO, WITH FRIENDS/FAMILY)

Playing cards for money in Nova Scotia is a fairly common practice with 41.9% of adults having gambled on cards at some point in time. About one in six adults took part in the last year (16.9%), although regular gambling patterns are low (3.8%) and only .1% of adults reporting having ever had problems associated with the activity (.1% of adults).

HORSE/HARNESS RACING

Although Horse and Harness Racing has been tried in the past by about 13% of Nova Scotian adults, past year participation is low at 1.3% and, consequently, there is insufficient data available to examine gambling behaviour for Horse and Harness Racing in greater detail. Due to low involvement levels, participation in Harness Racing will have a small impact on problem gambling prevalence or resources in the province. This is in strong contrast to other regions of Canada and internationally, where on-going development and expansion of racing venues and amenities (e.g., "racinos") support higher patronage levels and, not coincidentally, an accompanying increase in risk for problems associated with this type of gambling.

OTHER GAMBLING ACTIVITIES

Currently there are very low levels of involvement by adults in Nova Scotia in Internet (.4% ever played; .2% in the past year) and other forms of gambling (.5% ever, .2% in the past year). These activities should continue to be monitored for change but presently are contributing little to no gambling problems for adults in general in the province.

Regular Gambling Expenditure by Type of Gambling Activity

It will be recalled that the majority of gambling expenditures (92%) in Nova Scotia are generated by regular gamblers (i.e. those who take part in a gambling activity on a regular monthly basis). Lottery tickets account for most of the regular involvement in gambling in almost all jurisdictions. In the current study it is estimated that 44% of adults purchase at least one lottery type ticket regularly each month. This is a rate that is at minimum 8 times higher

For almost 40% of adults lottery type tickets are the only gambling purchases that they make on a regular monthly basis. On average these regular gamblers spend about $422 per year, accounting for approximately 28% of total gambling expenditures in the Province.

In contrast the 7% of adults who take part in VLT or Casino gambling regularly each month are spending at rates 9 times higher($3,760/month) and contribute about 43% of all gambling expenditures.

Those who regularly take part in other forms of gambling fall mid way between the two extremes.

These findings are highly consistent with actual revenue figures in Nova Scotia and illustrate a disproportionate relationship between participation rates in particular forms of gambling and revenue contribution. In Nova Scotia revenues are heavily skewed towards a small percentage of the population who are involved in VLT and Casino gambling on a regular basis.

than for any other form of gambling. In order to compare the relative impact of regular involvement in the various forms of gambling available in Nova Scotia expenditures were examined based on three groupings of regular gamblers:

- adults who only purchase lottery type tickets regularly (1+/month) including ALC Draws, Scratch 'N Wins, Break-opens, Charity Raffles and Draws, and 50/50 Draws
- adults who take part in VLTs and Casino gambling regularly (1+/month)
- adults who take part in other forms of gambling on a regular monthly basis such as Bingo, Sports Betting, Cards)

Table 19 Regular Monthly Gambling Expenditure by Type of Gambling

Regular Monthly Gambling in Past Year	% of adults	Avg. $ spent/yr.	% of Total Spend
Lottery Tickets Only: (ALC, Charity, 50/50 Draws)	38.9%	= $422	28%
VLTs & Casino Gambling:	6.6%	= $3,760	43%
Other forms of Gambling: (e.g. Bingo, Sports Betting, Cards)	9.9%	= $1,422	23%

Over the past year, approximately 38.9% of adults only purchased lottery ticket type games (ALC, Charity, 50/50 Draws) on a regular basis each month, spending about $422.00/year on all their gambling and contributing about 28% of annual gambling expenditures in the province. Some of these adults will have spent money on other gambling options but would only have taken part on a casual irregular basis. Therefore, despite the strong skew towards regular lottery ticket play, adults who only take part in these types of ticket games each month are spending at significantly lower levels than those who are taking part in other forms of gambling in Nova Scotia.

6.6% of adults regularly take part in VLTs & Casino gambling each month, spending on average $3,760.00 in the past year and contributing about 43% of annual gambling expenditures in Nova Scotia. The vast majority of these adults are also playing lottery ticket games regularly as well. However, compared to other regular lottery ticket players their gambling expenditures are almost 9 times higher.

9.9% of adults regularly take part in any other form of gambling, including, Sports Betting, Bingo or card games. On average these regular gamblers are spending about $1,422.00/year and contribute about 23% of all monies spent on gambling in the province.

These findings are highly consistent with actual Nova Scotia revenue figures (See Table 2) and demonstrate a disproportionate relationship between expenditure and gambling participation rates for the different types of gambling available in Nova Scotia.

Rates of Self-Reported Gambling Problems by Involvement in Different Gambling Activities

Monitoring the overall percentage of adults in a particular population experiencing gambling problems is useful in determining the relative magnitude of current gambling activities in contributing to problems in Nova Scotia.

However, this information does not take into account differences in participation rates. To assist in on-going planning, it is also helpful to identify the risks associated with participation in the activity, that is, the relative percentage of problems associated with taking part in a particular form of gambling.

This assists in assessing the potential impact of any changes in policy or practices that may influence participation rates (i.e., the number of people taking part in the activity).

The overall **percentage of adults** reporting problems with gambling provides estimates of the **number** of people who are identifying difficulties associated with various forms of gambling. This yields information for resource allocation in addressing current community health needs. The number occurs as a function of how many people are participating in a particular activity and the proportion of these same people who are experiencing adverse affects as a consequence of their involvement. Therefore, if all gambling activities contribute equally to problems, then those gambling activities participated in by a larger percentage of the population can be expected to have a proportionately larger impact on gambling problems observed in that same population.

In reality, this is not the case for gambling in Nova Scotia as there are higher rates of self-reported problems associated with the different forms of gambling. Moreover, given the rapid expansion of gambling in the last decade in Canada and growth in gambling as a source of provincial revenue, information is required to assist in risk management as part of the ongoing decision process. For example, low prevalence rates for problem gambling may simply occur due to low participation rates for a particular form of gambling rather than reflect lower risk for involvement in the activity. Any changes in distribution or regulatory practices which increase accessibility and frequency of participation can also be expected to lead to corresponding increases in the absolute number of adults experiencing difficulties related to the activity, even if the proportion of gamblers experiencing problem remains constant. For example: *Only 5% of adults may be regular gamblers for Activity XYZ, but approximately 20% of those who play game XYZ regularly develop problems. This means that approximately 1% of all adults will have a gambling problem associated with this activity (.20 X 5%=1%). If you double the number of regular players for XYZ through wider accessibility or other marketing strategies, without addressing the reasons why regular players develop problems, then you will also double the number of people having problems (.20 X 10%=2%).*

To assist the Office of Health Promotion in identifying relative risk for problem gambling among the various forms of gambling available in Nova Scotia, [31] the percentage of adults reporting problems with each form of gambling was examined within Trial Gamblers (i.e., those who had ever participated in the activity), Past Year Gamblers, and Regular Gamblers (i.e., those who participated in the activity at least once a month on a regular on-going basis during the past 12 months). Rates of self-reported gambling problems were then compared among the various gambling activities offered in the province.

[31] The analysis was restricted to regulated games of chance offered in Nova Scotia for two principal reasons; the percentage reporting problems associated with non-regulated types of gambling was low (< .1%) (e.g., 50/50 draws, personal bets on Games of Skill) or the participation rates in the population were too low to yield reliable sample sizes for within-segment analysis (e.g., Internet Gambling (n=11); Other Gambling Activities (n=14)). The only exception was for Card Games of which .3% of those who had ever gambled on cards. (n=1173) reported having had a problem at some time in the past; however, none of these individuals (n=3) had played in the last year.

Table 20: Percentage of Adults Experiencing Problems Among Trial, Past Year, and Regular Gamblers

When self-reported risk is examined by current play patterns, certain forms of gambling clearly emerge as posing greater risk for gamblers in Nova Scotia.

In some cases, this risk is masked due to low participation levels. However, participation levels can be influenced by accessibility, promotion and other marketing, regulatory and policy changes.

Thus, examining risk among those involved in each of the gambling activities identifies the proportion of gamblers that are reporting problems independently of the absolute number of adults engaged in the activity.

	Percentage Reporting Ever Experienced Problems		
	Of Those Who Have Ever Gambled on Activity	Of Those Who Have Gambled on Activity in Past Year	Of those Who Gamble on the Activity on a Regular Monthly Basis
Any Game of Chance:	(n= 2710) **2.7%**	(n= 2501) **2.9%**	(n= 1548) **3.8%**
Lottery Tickets Total:	(n=2470) **.9%**	(n= 2216) **1.0%**	(n= 1246) **1.4%**
Daily Lottery (Atlantic Keno)	(n= 253) **1.6%***	(n= 179) **2.2%**	(n= 60) **1.7%**
Weekly Lottery Draws (e.g., Lotto 6/49, Super 7)	(n= 2270) **.4%**	(n= 2000) **.4%**	(n= 1047) **.8%**
Scratch 'n Win Instant Tickets	(n= 1739) **.6%**	(n= 1354) **.7%**	(n= 432) **1.2%**
Break-opens	(n= 736) **.3%**	(n= 398) **.5%**	(n= 95) **2.1%**
Sports Betting Total:	(n= 536) **.7%**	(n= 302) **.7%**	(n= 61) **1.6%**
ALC Sport Select (e.g., Pro Line, Over-Under)	(n= 215) .9%	(n= 125) 1.6%	(n= 45) 2.2%
Other Sports Betting (non-ALC)	(n= 401) .5%	(n= 210) 0%	(n= 20) ***
Video Lottery	(n= 1027) **3.6%***	(n= 532) **5.8%***	(n= 144) **16.0%***
Bingo	(n= 1558) **1.0%**	(n= 428) **2.1%**	(n= 154) **3.2%***
Any Casino Gambling:	(n= 1277) **1.3%**	(n= 652) **2.5%**	(n= 53) **11.3%***
Slot Machines at Casino	(n= 1237) **1.0%**	(n= 621) **1.8%**	(n= 45) **8.9%***
Casino Table Games	(n= 297) **2.4%***	(n= 122) **5.7%***	(n= 12) ***
Charity Raffles/Draws	(n= 2189) **<.1%**	(n= 1805) **.1%**	(n= 213) **.5%**
Horse Racing/Harness Racing	*(n= 362)* **.6%**	*(n= 37)* **0%**	*(n= 1)* ***

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

*** estimates suppressed due to small sample sizes (n<30)

In Nova Scotia, Video Lottery and Casino gambling clearly pose the greatest risk for those who take part in either form of gambling on a regular basis. Rates of self-reported problem gambling are 5 to 10 times greater among adults who regularly take part in these activities as compared to any other type of gambling in the province.

For each gambling activity measured in the study, participants were specifically questioned to obtain detailed play behaviours. If they had ever taken part in the activity, they were questioned further to determine whether or not they had ever experienced any problems with the amount of time and/or money spent on this gambling activity, whether or not they had successfully resolved their problem, and either how long ago the problem was resolved or the length of time they have been experiencing problems with this form of gambling. This means it is possible to assess problems associated with specific forms of gambling rather than assuming gambling in general is a homogeneous activity and that problem gambling is an underlying, inherent condition that exists independent of the activity itself.

Video Lottery exhibits the highest levels of relative problems. About one out of every 28 people (3.6%) who have ever tried these gambling machines has experienced problems. Among past year gamblers, the proportion jumps to one in 17 (5.8%) but increases dramatically to about one out of six adults (16%) who take part in VLT gambling on a regular basis. This is the highest rate of problem development compared to any other form of gambling available in Nova Scotia. The 2003 estimate is slightly, yet significantly, lower than was the case in 1998 when 25% of all regular VL gamblers reported having ever had a problem with video lottery and 16% were reporting current problems. In 2003, the percentage of regular VL gamblers reporting current problems is comparable to previous rates (13% versus 16%) but the percentagehaving ever experienced problems with VLTs has dropped from 25% in 1998 to 16% in 2003 ($p<.001$). This suggests that some past Problem Gamblers may have stopped playing VLTs since the last measure (perhaps in response to the introduction of new terminals in 2001/02 and the loss of preferred games (e.g., Swinging Bells) and/or machines).[32] Regardless, the percentage reporting current problems has remained constant since the last measure in 1998.[33]

What may be more surprising are the findings for Casino gambling. Recall that only approximately .4% of adults report problems with Casino gambling, especially Slot Machines (.3% of adults), with VLTs accounting for twice the proportion of those self-identifying for problems (.8%). However, the percentage of regular Casino gamblers reporting problems is 11.3%, representing approximately one out of every 9 adults who visit the casino each month, a rate that does not differ significantly from that observed for Video Lottery. It is noteworthy that the rate of problem gambling is substantially lower for past year Casino gamblers (2.5%; 1 out of every 40 current casino patrons). This reflects the influence of casual, non-regular casino patrons, who collectively are reporting lower levels of associated problems. The risk drops to one-third that of VLTs among those who have ever played (1.3% versus 3.6%) suggesting that

[32] NS VL Responsible Gaming Features Research, Focal Research Consultants, Nova Scotia Gaming Corporation, October, 2002.

[33] 1997/98 Nova Scotia Regular VL Player Study, Nova Scotia Department of Health, Addiction Services, Focal Research Consultants Ltd., October 1998, Section 3: Problem VL Gamblers Analysis.

only 1 out of every 75 adults in Nova Scotia who have ever visited the casino has experienced any problems with their participation. Therefore, for Slots especially, it is involvement in regular monthly gambling that is associated with problems, whereas problems with Video Lottery are higher among all segments as well as increasing with frequency of play. This difference is due to play of VLTs, a more accessible form of gambling in Nova Scotia, being more heavily skewed towards regular rather than casual playing patterns than is the case for Casino Gambling in the province at present.

A more compelling result is observed for Casino Table gambling. Although fewer people participate in this type of gambling as compared to Slots (4.4% versus 22.2%), a similar percentage of adults reported having ever had problems related to the Table games (.3% of adults). Although small sample sizes for Table Game gambling preclude an examination of problem gambling within the regular player base, the percentage reporting problems among past year Table gamblers is comparable to that noted for VLTs (5.7%) which means about one in every 17-18 people who played Table games last year reported some degree of problem related to the activity. This is a rate that is three times higher than that observed for Slot Machines. Thus, it appears that low participation rates, largely related to accessibility and perhaps hesitancy of adults to get involved due to lack of understanding (implied lack of knowledge and skill), are keeping down the absolute number of adults experiencing problems with this type of gambling.

Four other forms of gambling that emerge as being associated with higher than expected risk for problems, as based on results for the **percentage of adults** reporting problems, are Bingo, ALC Sports Lottery, Break-open tickets and Keno Atlantic the new daily Draw game. All of these games contribute a small proportion of self-reported problems at present, yet among regular gamblers for each activity, prevalence of self-reported problems almost doubles. While the percentage of regular gamblers reporting problems is substantially lower than is the case for VLTs and Casino gambling, it appears that one in about every 30 Regular Bingo Players (3.2%) and one in every 45-50 Regular Sports Lottery (2.2%) and Break-open gamblers (2.1%) will be vulnerable to problems. In the case of Keno Atlantic the rate of problems experienced among trial players (i.e. ever played) is at least three times higher than for any other lottery ticket game (1.6% versus .3-.6%) and should be monitored. Therefore, expanding the player base for any of these games or introducing changes that facilitate play involvement or capacity for expenditure could be expected to lead to a corresponding increase in the proportion of gamblers at risk for problems.

For the most part, there are currently few differences in the percentage of regular lottery ticket players who are self-reporting problems with any of the various ticket games offered, including ALC's Sports Lottery. The only significant differences observed were for Keno Atlantic and

regular Break-open players exceeding rates observed for regular weekly lottery Draw players (2.1% versus .8%).

Current Gambling Profiles - Past Year Gamblers

The following section examines gambling behaviours and attitudes among those adults who participated in any form of gambling in Nova Scotia during the past year. The primary segmentation is by risk for problem gambling - CPGI: No Risk (score=0); Low Risk (score=1-2); Moderate+ Risk (score=3+). Relevant findings are also presented and discussed by Shared Service Areas, gender, age and income.

Participation in Each Gambling Activity by Risk for Problem Gambling (CPGI)

Past Year Participation Rates

Those at any level of risk for problem gambling are more likely to have taken part in all forms of gambling over the past year than No Risk Gamblers, with the exception of Charity Raffles and Draws which are played equally by adults in all risk segments.

The only notable distinction in past year involvement among those At Risk and Problem Gamblers is observed for daily lottery (Atlantic Keno) and VLTs. Participation in both these continuous forms of gambling increases with risk for problem gambling.

Table 21: Gambled on Activity in the Last Year by Risk For Problem Gambling (CPGI)

	Risk For Problem Gambling (CPGI Score)			Total Past Year Gamblers
	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	(n=2501)
Any Game of Chance:	100%	100%	100%	100%
Lottery Tickets Total:	87.9%*	97.8%*	96.4%	88.6%
Daily Lottery (Atlantic Keno)	6.3%*	14.2%*	26.8%*	7.2%
Weekly Lottery Draws (e.g., Lotto 6/49, Super 7)	79.4%*	87.3%*	85.7%	80.0%
Scratch 'n Win Instant Tickets	52.4%*	73.9%	80.4%	54.1%
Break-opens	14.7%*	27.6%	39.3%	15.9%
Sports Betting Total:	10.8%*	29.9%	23.2%	12.1%
ALC Sport Select (e.g., Pro Line, Over-Under)	4.0%*	17.2%	16.1%	5.0%
Other Sports Betting (non-ALC)	7.6%	20.9%	10.7%	8.4%
Video Lottery	18.0%*	53.0%*	82.1%*	21.3%
Bingo	15.9%*	30.6%	33.9%	17.1%
Any Casino Gambling:	24.3%*	50.0%	42.9%	26.1%
Slot Machines at Casino	23.2%*	46.3%	42.9%	24.8%
Casino Table Games	3.8%*	18.7%	17.9%	4.9%
Charity Raffles/Draws	72.7%	66.4%	66.1%	72.2%
Card Games outside of a Casino	17.7%*	30.6%	41.1%	19.0%
Games of Skill (e.g., pool, darts, golf)	4.0%*	20.9%	16.1%	5.2%
50/50 Draws	43.4%*	53.0%*	46.4%	43.9%
Horse Racing/Harness Racing	1.6%	.7%	0%	1.5%
Internet Betting/Gambling	.1%	.7%	3.6%*	.2%
Other gambling activities	.2%	.7%	0%	.2%

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

No Risk gamblers tend to significantly differ from those gamblers scoring for any level of risk in terms of participation rates for all forms of gambling except Charity Raffles and Draws.

Conversely, there are few distinctions in the types of gambling activities played in the last year among the At Risk and Problem Gamblers. The only gambling options for which likelihood of past year participation increases with risk are daily lottery Draws (Keno Atlantic) and VLTs.

As noted earlier in the report, involvement in regular gambling is associated with increased likelihood of experiencing problems, especially among certain types of gambling. Therefore, it is not surprising to find that those scoring for NO Risk gambling are less likely to be involved in any form of gambling on a regular monthly basis and, when they do take part regularly, tend to be involved in lower risk activities such as weekly Draws and Charity Raffles or 50/50 tickets.

At present, Video Lottery is the only regular gambling activity in Nova Scotia which increases with risk for problem gambling (as identified by the CPGI).

Those scoring at Problem levels are more likely than At Risk gamblers to have played Keno Atlantic, the daily lottery Draw, during the past year (27% versus 14%). However, there is no difference observed between the two groups in terms of regular monthly involvement with this new draw game (≈ 10%).

Keno Atlantic is still a relatively new ticket game, launched by the Atlantic Lottery Corporation in October 2001, yet one-quarter of those scoring at Problem levels have purchased or played this daily lottery during the past year.[34]

For Video Lottery, participation is substantially higher at 82.1% of those scoring for Problem Gambling as compared to 53% of those At Risk and 8% of No Risk Gamblers.

Regular Monthly Participation Rates

Table 22: Regular Monthly Participation Rates for Gambling Activities by Risk for Problem Gambling (CPGI)

	Risk For Problem Gambling (CPGI Score)			
	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	Total Past Year Gamblers (n=2501)
Any Game of Chance:	**48.1%***	**67.2%**	**80.4%**	**49.8%**
Lottery Tickets Total:				
Daily Lottery (Atlantic Keno)	1.8%*	9.0%	10.7%	2.4%
Weekly Lottery Draws (e.g., Lotto 6/49, Super 7)	40.5%*	55.2%	66.1%	41.9%
Scratch 'n Win Instant Tickets	15.6%*	34.3%	46.4%	17.3%
Break-opens	3.4%*	8.2%	8.9%	3.8%
Sports Betting Total:	1.9%*	9.0%	8.9%	2.4%
ALC Sport Select (e.g., Pro Line, Over-Under)	1.3%*	8.2%	8.9%	1.8%
Other Sports Betting (non-ALC)	.7%	1.5%	1.8%	.8%
Video Lottery	**3.5%***	**24.6%***	**51.8%***	**5.8%**
Bingo	5.6%*	11.2%	17.9%	6.2%
Any Casino Gambling:	1.5%*	8.2%	12.5%	2.1%
Slot Machines at Casino	1.3%*	6.7%	8.9%	1.8%
Casino Table Games	.2%*	2.2%	7.1%	.5%
Charity Raffles/Draws	8.1%*	14.9%*	10.7%	8.5%
Card Games outside of a Casino	3.9%*	6.0%	10.7%*	4.2%
Games of Skill (e.g., pool, darts, golf)	.4%*	6.7%	7.1%	.9%
50/50 Draws	13.7%*	23.1%	23.2%	14.4%
Horse Racing/Harness Racing	0%	0%	0%	0%
Internet Betting/Gambling	0%	0%	0%	0%
Other gambling activities	0%	.7%	0%	0%

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

It is not surprising to find that those scoring for No Risk gambling are less likely to be involved in <u>any</u> form of gambling on a regular monthly basis. In fact, the majority of regular gambling by these adults is largely accounted for by weekly lottery tickets (40.5%) and, to a lesser extent,

[34] In October 2001, Atlantic Choice, a weekly keno ticket game, was re-launched as Keno Atlantic as the only daily draw available in the Atlantic region. According to the ALC 2001-2002 Annual report, this new game brought in about $13 million in total sales. This represents about 1.3% of total lottery ticket sales in Atlantic Canada during the same fiscal period ($963 million).

instant tickets (15.6%), 50/50 draws (13.7%), and Charity Raffles and Draws (8.1%), all of which are associated with less risk for problems. This finding is consistent with adults' self-reports discussed earlier regarding problems related to their gambling.

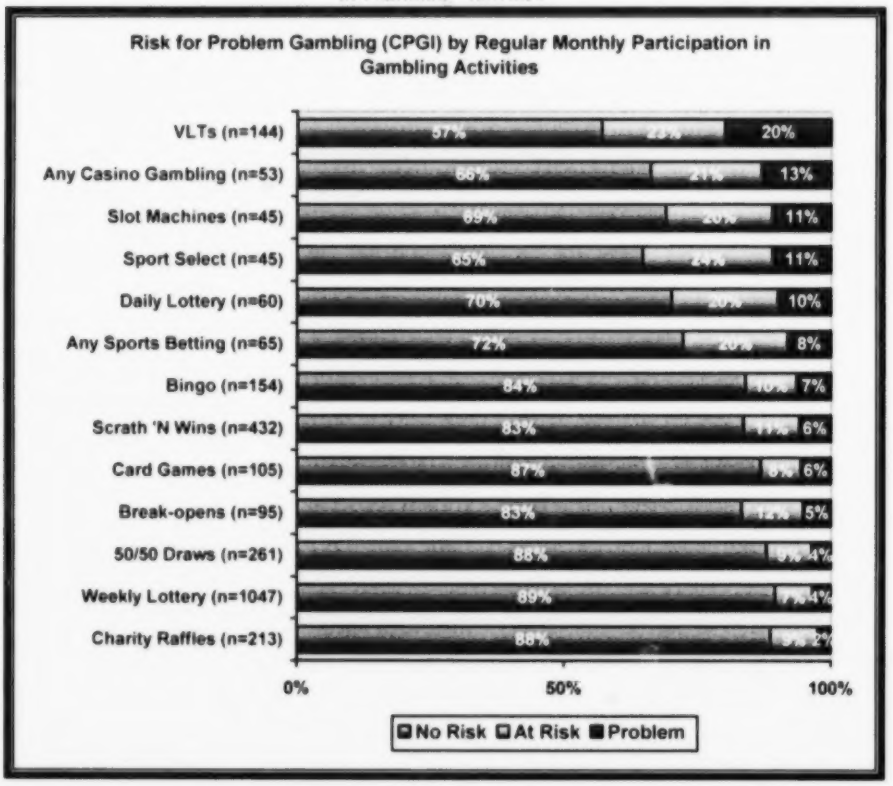
Video Lottery is the only regular gambling activity that differs significantly among the three Risk segments identified by the CPGI, such that regular participation in this form of gambling increases strongly with risk for problem gambling as measured in the current study.

Given the earlier association identified between regular gambling involvement and problem development, those adults playing each game of chance on a regular monthly basis were examined by risk for problem gambling using the CPGI classification. The figure below illustrates the relative distribution of risk within each regular gambler base.

Just under half of regular VL gamblers are currently scoring at any level of risk for problems, with 20% identified at Moderate to Severe Problem levels.

Casino gambling and ALC's Sports Lottery (Sport Select) also tend to reflect relatively higher levels of risk for regular gamblers. However, the percentage of adults gambling each month on these activities is relatively low and, therefore, the magnitude of impact will be less than for other, less risky, gambling options played by a larger proportion of the population (e.g., lottery Draw and Instant tickets).

Figure 9: Risk for Problem Gambling by Regular Monthly Participation in Gambling Activities



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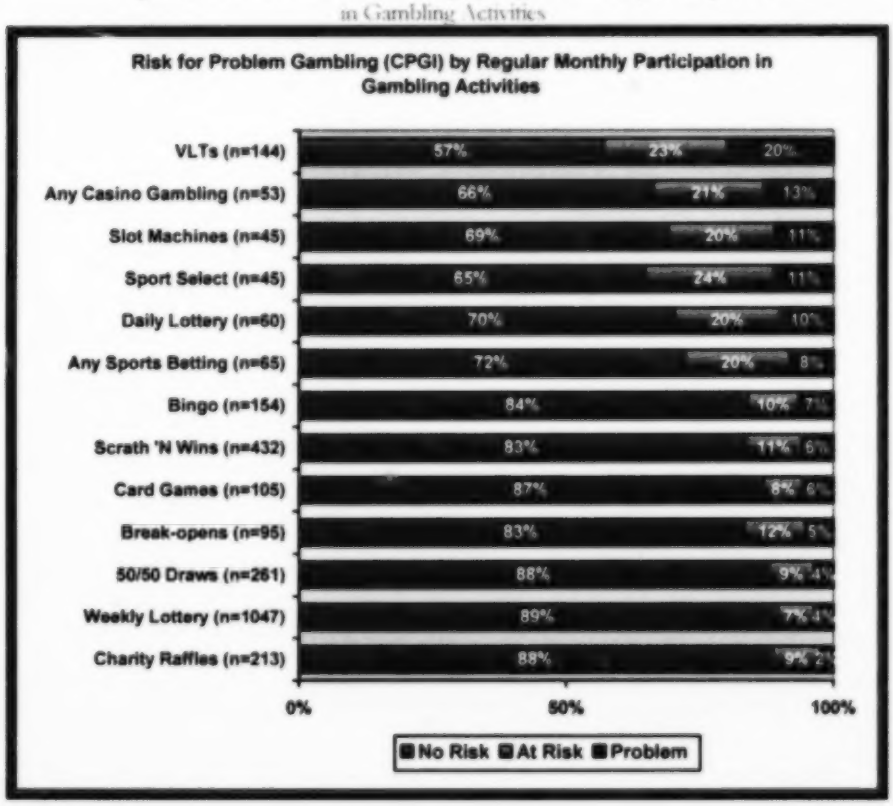


A limitation of the CPGI and other overall measures of problem gambling (e.g., SOGS, DSM-IV) is that it cannot effectively differentiate among problems for the various gambling activities. Therefore, risk for problem gambling associated with one form of gambling will also show up for any other type of gambling that person also takes part in, whether or not this activity is contributing to any problems for the individual. It is difficult to use the measures to test for differences in problem gambling rates by type of gambling activity.

Despite the tendency for general measures of problem gambling to keep identifying the same people for each gambling activity they participate in, profiling risk for problem gambling within each regular player base is still useful in illustrating the relative association between problem gambling and the various types of gambling options available in the province. Using this methodology, it is not possible to determine whether an activity is directly contributing to problem gambling development or is simply a gambling option more likely to be played by those with gambling problems. Regardless, it is still clear from the data in Nova Scotia that more continuous forms of gambling available in the province are associated with greater risk for problems, in particular for those who are involved in the activity on a regular basis.

For example, approximately 90% of regular VL gamblers also play lottery Draw tickets on a regular basis, yet only about 10% of those who purchase Draw tickets on a regular basis also gamble regularly on VLTs. Regular VL gamblers are about 20 times more likely to self-report problems with Video Lottery as compared to self-reported problems with Draw tickets by regular Draw ticket players (16% versus .8%). Since the CPGI, (SOGS or DSM-IV) provides only an overall estimate of risk for problem gambling, a person who scores for problem gambling associated with Video Lottery will also be identified as a Problem Gambler for all other forms of gambling that they engage in on a regular basis. The majority of regular gamblers in Nova Scotia play lottery tickets regardless of risk for problem gambling. This means that almost all those identified as Problem Gamblers will also be playing lottery tickets regularly, even though this activity is not necessarily contributing to any problems for the gambler. Therefore, the majority of risk identified among the Regular Player base for Draw ticket games will be related to the 10% of these adults also play VLTs (or other higher risk gambling activities) and may have nothing to do with Draw ticket gambling.

Quite often, higher rates of involvement in more popular, pervasive forms of gambling by those at high risk for problem gambling are used as an argument that such products are "gateway activities" to higher risk gambling activities. While this may be the case for some individuals, the majority of those engaging in lottery Draw ticket play and other gambling activities identified as lower risk (e.g. Charity Raffles and Draws, 50/50 tickets) are not taking part in other types of high risk gambling. In contrast, almost all those engaged in higher risk gambling activities do take part in most other forms of gambling available in the province. For example: Currently, two-thirds of those scoring for Problem Gambling in Nova Scotia play lottery Draw tickets on a regular basis. This is consistently the highest rate of regular play among all of the gambling activities engaged in by those identified as Problem Gamblers. However, this rate of regular play for Draw games doesn't vary strongly from gamblers scoring at lower levels of risk. In fact, the only gambling activity in Nova Scotia at this time, for which regular play increases with risk for problem gambling, is VLTs ($p<.001$) and, to a lesser extent, Casino gambling ($p=.10$). Therefore, as a greater proportion of VLT players are at risk for problem gambling and, as they also tend to play lottery Draw games, they will also show up as at risk when examined within the regular lottery ticket group. However, while the majority of VLT gamblers also play lottery Draw games, the majority of lottery Draw gamblers do not play

VLTs and, hence, problem gambling rates among regular Draw ticket players is substantially lower (2% versus 20% for VLTs).

A new approach to the argument may be to question the measurement approach: **"Does involvement in higher risk gambling activities lead to higher rates of problem gambling being identified for lower risk gambling activities?"** Even more importantly **"What are the key distinctions between those gambling activities that pose low risk to players versus those that pose higher risk?"** , so that we can identify and manage the product factors or characteristics contributing to risk thereby reducing or eliminating the opportunity for problems to develop.

Participation in Each Gambling Activity by Shared Service Area, Gender, Age, and Income

Past Year Participation

Table 23: Past Year Participation Rates for Gambling Activities by Shared Service Area, Gender, Age and Income

	Participation in Each Gambling Activity Within Last Year (Total Gamblers in Each Segment)									
	Any Lottery	Weekly Lottery	Scratch 'n Win	Break opens	Sports Betting	VLTs	Bingo	Casino Slots	Casino Tables	Charity Raffles
Percentage of Adults in Nova Scotia (n=2800):	88.6%	80.0%	54.1%	15.9%	12.1%	21.3%	17.1%	24.8%	4.9%	72.2%
Shared Service Area (Health Districts):										
DHA 9 (Capital) (n=1069)	88.8%	81.0%	57.6%	13.9%*	14.5%	28.3%*	17.4%	30.9%*	7.1%*	71.7%
DHAs 7 & 8 (Eastern) (n=505)	89.8%	81.3%*	54.5%	19.5%*	11.6%	18.6%	19.3%	29.9%*	3.7%	68.0%*
DHAs 4 5 & 6 (Northern) (n=445)	88.8%	79.8%*	54.9%	15.7%	11.9%	18.6%	14.6%	17.3%*	2.9%	76.0%*
DHAs 1 2 & 3 (Western) (n=481)	86.9%	76.6%	45.7%*	16.8%	7.5%*	14.9%	18.6%	13.9%*	3.0%	73.9%*
Gender:										
Male (n=1182)	88.8%	83.2%*	42.5%	12.7%	21.0%*	26.2%*	7.2%	25.3%	7.2%*	70.7%
Female (n=1319)	88.4%	77.1%	64.6%*	18.8%*	4.1%	16.8%	26.0%*	24.4%	2.8%	73.5%
Age:										
19-24 years (n=225)	88.0%	64.9%*	67.1%*	24.4%*	25.8%*	36.9 %*	19 .1%	28.9%*	10.7%*	68.1%*
25-34 years (n=414)	88.4%	79.0%	61.4%*	20.5%*	16.9%*	32.9%*	20.0%*	28.3%*	8.4%*	73.4%*
35-44 years (n=638)	91.2%*	83.4%*	59.6%*	16.5%*	11.1%*	22.3%*	18.8%	24.5%*	5.5%*	77.3%*
45-54 years (n=549)	89.3%	83.4%*	48.2%*	12.8%*	12.8%*	17.5%*	14.8%*	27.9%*	2.4%*	75.8%*
55-64 years (n=345)	88.7%	83.2%*	46.4%*	11.6%*	6.1%*	14.2%*	17.4%	20.9%*	2.6%*	71.0%*
65 years + (n=330)	83.0%*	75.8%*	42.1%*	13.0%*	3.8%*	7.9%*	18.4%	17.8%*	.8%*	67.8%*
Annual Household Income:										
<$30,000 (Low) (n=567)	88.9%	78.7%	55.0%	20.8%*	10.1%*	18.5%*	24.2%*	19.2%*	2.3%	64.8%*
$30-$59,999 (Mid) (n= 901)	88.3%	81.4%	55.2%	18.2%*	12.1%	23.5%*	17.9%*	24.4%*	3.4%	74.3%
$60,000+ (High) (n=827)	88.8%	79.1%	52.8%	12.6%*	14.6%*	22.5%	11.9%*	30.5%*	8.8%*	78.4%

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

Past year participation rates in the various gambling activities were examined by the four Shared Service Areas, Gender, Age and Income.

Not surprisingly, involvement in Casino gambling is twice as high in DHA 9 (Capital) and DHAs 7&8 (Eastern), where the two casinos are located. About 30% of adults living in areas with the casinos have visited the venue during the past year.

Adults in DHA 9 are also significantly more likely to be playing VLTs as compared to those living in any other area of the province (28% versus ≈ 16%).

SHARED SERVICE AREA (DISTRICT HEALTH AUTHORITIES)

Participation in any lottery ticket game and Bingo tend to be similar in all areas of the province. Only DHAs 1 2 & 3 (Western) has comparatively lower rates of past year participation for weekly lottery (76.6%), Scratch 'n Wins (45.7%) and Sports Betting (7.5%).

Given the location of the two casinos in Halifax (DHA 9) and Sydney (DHAs 7 & 8), participation in Casino gambling is significantly higher in both of these areas of the province (≈ 30% versus 17% to 19%). This discrepancy is almost entirely attributable to Slot Machine gambling, especially in DHAs 7 & 8, the Cape Breton region. Only in DHA 9, which

includes Halifax Regional Municipality (HRM), does play of Casino Table games exceed rates noted in the other health districts in the province (7.1% versus 2.9% to 3.0%).

DHA 9 also exhibits significantly higher participation rates for VLTs (28.3% versus 14-17%), whereas Break-opens are more popular in the Cape Breton area (DHAs 7 & 8) than in DHA 9 (19.5% versus 13.9%).

Males are more likely than women to participate in weekly draw games, VLTs, sports betting and casino table games whereas women are more inclined than men to play Scratch 'N Wins, Break-opens tickets and Bingo. There is no significant gender difference observed for past year participation in Charity Raffles and Draws or Slot Machine gambling.

GENDER

Charity Raffles/Draws (72.2%) and Slot Machines (24.8%) are the only two gambling activities men and women are equally likely to participate in. Males in Nova Scotia are significantly more likely to have played weekly lottery Draws (83.2% versus 77.1%), VLTs (26.2% versus 16.8%), Sports Betting (21.0% versus 4.1%), and Casino Table games (7.2% versus 2.8%). Women report higher participation rates for Scratch 'n Win lottery tickets (64.6% versus 42.5%), Break-opens (18.8% versus 12.2%) and Bingo (26.0% versus 7.2%).

AGE

Past year involvement in gambling declines with age for Video Lottery, Scratch 'n Wins, Sports Betting and Casino Table games. Younger adults in the province (19-24 year olds) tend to report the highest participation rates in most forms of gambling with the exception of weekly lottery Draws (64.9%) and Charity Raffles and Draws (55.1%), which fall below participation levels observed within the other age categories.

Only among those aged 65 years and older is Slot Machine gambling significantly lower at the 90% confidence level than for adults under 35 years. This likely reflects accessibility issues. When the data is examined for seniors (55 years +) living in those areas offering Casino gambling, participation rates are more than twice as high in DHA 9 (Capital: 20.0%) and DHAs 7 & 8 (Eastern: 22.8%) as in the other Shared Service Areas (6% to 9.5%). This means that about one in five seniors has gambled on Slot Machines in the last year in those areas where the casinos are located with almost one quarter of these seniors taking up regular playing patterns especially in the Eastern Shared Service Area (5%).

INCOME

There are no differences in past year participation rates for most lottery ticket games, including weekly Draws or Scratch 'n Wins, by household income category. There is an inverse relationship between income and participation in Break-open tickets or Bingo, whereas the likelihood of having taken part in Slot Machine play or Sports Betting increases with income. Those with annual household incomes under $30,000/year are less likely to have taken part in Video Lottery (18.5% versus ≈ 23%) or to have purchased Charity Raffles and Draws (64.6% versus ≈ 75%). Conversely, those with income levels of $50,000 + per year are significantly more likely to have gambled at Casino Table games over the past year (8.8% versus 2% to 3%).

Regular Monthly Participation

Table 24: Regular Monthly Participation Rates for Gambling Activities by Shared Service Area, Gender, Age and Income

	Participation in Each Gambling Activity on a Regular Monthly Basis (Total Gamblers in Each Segment)									
	Any Lottery	Weekly Lottery	Scratch 'n Win	Break-opens	Sports Betting	VLTs	Bingo	Casino Slots	Casino Tables	Charity Raffles
Percentage of Adults in Nova Scotia (n=2800):	49.8%	41.9%	17.3%	3.8%	2.4%	5.8%	6.2%	1.8%	5%	8.5%
Shared Service Area (Health Districts):										
DHA 9 (Capital) (n=1069)	52.8%	44.2%*	18.8%*	3.1%	3.3%*	7.9%*	8.0%	1.8%	.8%	9.1%*
DHAs 7 & 8 (Eastern) (n=505)	50.1%	42.0%	13.8%	4.2%	2.7%	4.8%	7.9%*	4.8%*	.8%	11.8%
DHAs 4 5 & 6 (Northern) (n=446)	50.0%	41.9%	18.4%	4.8%	1.3%*	3.6%	4.7%*	.4%	.2%	12.1%
DHAs 1 2 & 3 (Western) (n=481)	43.2%*	36.8%*	13.7%*	4.4%	1.4%*	4.2%	6.1%	.2%	.2%	9.5%
Gender:										
Male (n=1182)	51.4%	46.2%*	12.5%	3.0%	4.6%*	8.0%*	1.8%	2.0%	.8%	7.4%
Female (n=1319)	48.4%	38.0%	21.8%*	4.5%*	.5%	3.8%	10.1%*	1.6%	.2%	9.5%
Age:*										
	*	*	*	*	*	*				*
19-24 years (n=225)	35.6%*	16.9%*	24.4%*	8.2%*	7.1%*	10.2%*	3.6%*	3.1%	2.2%	5.6%*
25-34 years (n=414)	49.5%*	37.7%*	19.6%*	5.6%*	3.6%	9.7%*	5.3%	1.2%	.5%	8.5%*
35-44 years (n=538)	53.3%*	45.6%*	18.3%*	4.1%*	2.0%	6.7%	5.6%	1.3%	.5%	12.4%*
45-54 years (n=549)	53.2%*	48.6%*	14.4%*	2.9%*	2.4%	3.6%	5.6%	1.3%	.4%	8.7%*
55-64 years (n=345)	51.3%*	47.0%*	13.9%*	2.0%*	.9%	3.8%	8.4%*	2.9%	0%	7.2%*
65 years + (n=330)	48.1%*	40.0%*	15.8%*	2.7%*	.3%	1.5%	8.2%*	2.4%	0%	3.9%*
Annual Household Income:										
<$30,000 (Low) (n=567)	48.5%	39.8%	17.8%	4.9%	1.9%	5.5%	9.0%	2.1%	.4%	8.8%*
$30-$59,999 (Mid) (n=901)	53.8%*	45.8%*	19.8%*	4.4%	2.1%	6.3%	6.5%	2.4%	.3%	8.8%
$60,000+ (High) (n=827)	47.0%	38.5%	13.9%*	2.4%*	3.4%	5.9%	3.9%*	1.1%	.8%	10.3%

* indicates significant difference at minimum 95% + confidence interval ($p < .05$)

Essentially the differences observed for past year participation also hold true for regular gambling rates, suggesting that there are some distinct risk factors associated with certain groups in Nova Scotia.

VLTs will be a larger issue in DHA 9 (Capital) where significantly more adults are involved in monthly play of the machines as compared to elsewhere in the province (8% versus 5% to 6%). Regular Sports Betting also tends to be higher in this area.

In DHAs 7 & 8 (Eastern), the rate of regular gambling for Slot Machines (≈ 5%) is identical to that for VLTs (≈ 5%), suggesting that, in contrast to the other Shared Service Areas, Slot Machine gambling can be expected to exert similar community impacts as VLTs. Regular Bingo gambling is also higher (7.9%).

Differences in regular playing patterns among certain population segments across the province highlight those groups potentially at increased risk for some forms of gambling problems. While not all regular gamblers experience difficulties with their involvement, some types of gambling are found to be more strongly associated with negative consequences for those who take part in the activity on a regular basis. Others pose unique problems for particular groups. Thus, examination of regular gambling patterns can assist in refining communication messages and effectively channeling preventative efforts to achieve maximum benefit.

Certainly there are distinct differences among the Shared Service Areas in Nova Scotia in terms of high risk gambling groups. For example, seniors in DHAs 7 & 8, as well as DHA 9, represent a potentially important group for Slot Machine education, prevention and

intervention. Seniors generally have lower participation rates and exposure to most other types of continuous gaming options and may be unaware of the similarities between VLTs and Slot Machines. Other considerations, such as access to time and money, may also make this particular group of adults even more vulnerable to developing problems with their Casino gambling.

Regular playing patterns for men in the province position them for greater risk of problems with VLTs and Sports Betting while women appear to be at greater risk for Bingo and Scratch 'n Wins.

Younger adults are more likely to be involved regularly in VLTs (10.2%), Sports Betting (7.1%) and instant type scratch tickets (24.4%) than older adults, whereas Bingo (8%), Slots (2% to 3%) and Scratch 'n Wins (15%) may pose particular risk to seniors in the province.

Sports Betting is more relevant to young males, in particular those living in DHA 9 and DHAs 7 & 8.

In DHAs 1, 2 & 3 and DHAs 4, 5 & 6 Sports Betting is engaged in less often and regular gambling is centered on lottery ticket purchasing, and VLTs.

Of special interest surrounding VLTs is the percentage of regular VL gamblers moving up the age continuum. Traditionally in Nova Scotia, regular VL gambling has been strongly skewed towards young adults with significantly higher regular VL gambling rates among the youngest adults in the province (19-24 years). This is largely due to a greater tendency for 19-24 year olds to be in VLT venues more often than other adults in the province (i.e., licensed establishments including bars, pubs, clubs, lounges) and a tendency for these younger adults to have fewer demands on their time or money resources (e.g., less likely to have mortgages, children, spouse/partner, full time job, etc.). There is evidence of a decline in regular VL play among 19-24 year olds (1998: 18% versus 2003: 10%, $p<.001$). The percentage of adults in the next age group of 25-34 years who are regular VL gamblers is now at similar levels to that observed for the 19-24 year olds. (25-34 years: 9.7%). This is preliminary evidence of the potential aging of the regular VL player base in Nova Scotia. As discussed earlier in the report (Section 2: Risk for Problem Gambling by Key Demographic Segments), as adults age, their involvement in regular VL gambling has more financial, relationship and other time-related implications. It may be that the aging of the regular player base is contributing to an increase in the "degree" of negative consequences associated with problem VL gambling that may more often lead to negative impacts for others at a household and community level. Therefore, while the percentage of problem VL gamblers has remained fairly constant, the ramifications of their on-going involvement may be escalating and exerting larger impacts on the community at large. This, in turn, drives greater community concern or intolerance for the activity.

Gambling Attitudes

Endorsement of the 15 statements varies strongly among the various risk segments for the CPGI. In part, this is due to some similarity with the 9 questions comprising the scored problem gambling severity index used to classify risk for problem gambling. This relationship can be explored; however, there is also practical value in examining both the differences and similarities in responses to further identify risk indicators.

All adults taking part in the study were read a series of 15 gambling statements and asked to indicate how much they agree or disagree with each, using a 1-5 likert scale. The percentage of adults in agreement with each statement (rating of 4-5/5) are presented by risk for problem gambling (CPGI) in the table below:

Table 25: Percentage Agreement with Attitudinal Statements by Risk for Problem Gambling (CPGI)

	Risk For Problem Gambling (CPGI Score)			Total Past Year Gamblers
	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	(n=2501)
I find gambling/games of chance to be fun and entertaining	29.0%*	65.7%	69.6%	31.9%
I sometimes feel guilty about how much money I have spent gambling	3.0%*	23.9%*	62.5%*	5.4%
After losing money gambling I have tried to win my money back again	2.1%*	17.9%*	60.7%*	4.2%
After a string of losses while gambling I feel you are more likely to win	2.4%*	10.4%*	23.2%*	3.3%
Gambling is an enjoyable part of socializing with friends or family	19.9%*	33.6%	37.5%	21.1%
I sometimes gamble in the hopes of paying off debts or bills	3.9%*	14.9%	25.0%	5.0%
I consider myself to be knowledgeable about how to play games of chance	13.8%*	37.3%	30.4%	15.4%
I gamble to forget my troubles or worries or when I feel bad about myself	.4%*	3.7%*	16.1%*	1.0%
You can win more when gambling if you use a certain system or strategy	2.4%*	12.7%	14.3%	3.2%
I have friends or family who worry or complain about me gambling	.4%*	3.0%*	25.0%*	1.1%
I have lied about my gambling	.5%*	2.2%*	30.4%*	1.3%
I sometimes feel guilty about how much time I spend gambling	.5%*	4.5%*	32.1%*	1.4%
I could stop gambling anytime I wanted	98.8%*	94.0%*	53.6%*	97.6%
I often find myself thinking about gambling or ways to find money to gamble	.3%*	4.5%*	19.6%*	1.0%
I usually set a budget or decide how much I am going to spend before I start to gamble	51.2%	76.1%*	44.6%	52.4%

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

Agreement with 5 of the 15 statements clearly increases with risk for problem gambling:

- ***chasing losses***
- ***guilt about time spent gambling***
- ***especially guilt about money spent gambling***
- ***gambling as an escape to forget worries or troubles,***
- ***thinking about ways to get money to gamble***

These are all well-recognized indicators for increased risk of problem gambling.

However, responses to some of the other statements provide alternative options for assessing individual risk factors.

"NO RISK" GAMBLING INDICATORS

Adults in the "No Risk" category:

- Are less likely to find gambling and games of chance to be fun and entertaining (29%) or agree that gambling is an enjoyable part of socializing with friends or family members (19.9%)
- Rarely report any guilt about the amount of time (.5%) or money (3%) spent gambling
- Do not chase losses (2.1%)
- Do not believe that they are more likely to win after a string of losses (2.4%) or that they can win more often using a strategy for play (2.4%)
- Are less inclined to feel knowledgeable about how to play the games (13.8%)
- Never spend time thinking about gambling or ways to get money to gamble (.3%)
- Rarely gamble in the hopes of paying off debts or bills (3.9%)
- Do not have any friends or family members who worry or complain about their gambling (.4%)
- Can stop gambling anytime they want (98.8%)

To gain additional insight as to risk indicators specifically associated with problem gambling, the data was examined by all 4 risk segments for the CPGI including Problem Gamblers (n=21).

RISK INDICATORS (FOR THOSE SCORING AT ANY LEVEL OF RISK)

Generally, those scoring at any level of risk for problem gambling are equally likely to:

- Find gambling to be fun and entertaining (66% to 71%), with about one-third agreeing it is an enjoyable part of socializing with friends and family
- Feel they are knowledgeable about the games (37% to 43%)
- Believe the use of strategies can influence chance of winning (13% to 14%)

PROBLEM INDICATORS

The following items are endorsed significantly more often by those scoring at Severe Problem levels (CPGI score=8+) and do not differ significantly between At Risk and Moderate Problem Gamblers:

- Belief that odds of winning improve after a string of losses (38% versus 10% to 14%)
- Gambling in hopes of paying off bills or debts (47.6% versus 3%)
- Lying about their gambling (52% versus 3% to 8%)
- Gambling to forget worries or when they feel bad about themselves (42.9% versus 3% to 25%)
- Having friends or family members who worry or complain about their gambling (52.4% versus 3% to 8%)
- Thinking about gambling or ways to find money to gamble (38% versus 4.5% to 8.6%)
- Cannot stop playing anytime they want to (76% versus Low: 21% and No Risk: 2%)

Note: Setting a budget for play discriminates between At Risk and Problem Gamblers (76% versus 45%) but No Risk Gamblers are no more likely than those at problem levels to be budgeting their gambling (51%). Again, this reflects fundamental differences in the type of gambling activities played by those scoring at any level of risk versus No Risk groups and the frequency and amount spent, but may offer an important opportunity for preventative communication/messages.

Behaviours While Gambling

As part of the gambling risk correlates examined in the CPGI, adults are typically asked a series of questions regarding alcohol and tobacco use while gambling using the scale adopted for the CPGI scored items for problem gambling severity (*never, sometimes, most of the time, almost always*).

In the current study, this same approach was expanded to also examine use of on-site or alternative sources of money while gambling.

For the most part, the differences observed among the Risk Segments in terms of the use of alcohol, tobacco and money resources while gambling tends to reflect differences in the types of gambling activities in which each group is predominantly engaged.

As risk for problem gambling increases, so too does involvement in VLT and Casino gambling, both of which are offered in locations that typically have offered patrons access to alcohol and tobacco while gambling and usually provide on-site access to bank machines, debit and credit card use.

Table 26: Frequency of Related Behaviours While Gambling by Risk for Problem Gambling (CPGI)

	Risk For Problem Gambling (CPGI Score)			Total Past Year
	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	(n=2501)
Consumed Alcohol While Gambling				
Never	83.5%*	49.3%	33.9%	80.5%
Sometimes	12.9%*	35.1%	32.1%	14.5%
Most of the Time	1.2%*	4.5%	8.9%	1.6%
Almost Always	2.4%*	11.2%*	25.0%*	3.4%
Gambled Under the Influence of Alcohol or Drugs, While Drunk or High				
Never	94.4%*	75.4%*	60.0%*	92.6%
Sometimes	4.6%*	18.7%*	27.3%	5.9%
Most of the Time	.4%	0%	1.8%	.4%
Almost Always	.6%*	6.0%	10.9%	1.1%
Used Tobacco While Gambling				
Never	86.6%*	65.7%*	30.4%*	84.2%
Sometimes	5.1%*	7.5%	14.3%*	5.4%
Most of the Time	2.5%	6.0%	3.6%	2.7%
Almost Always	5.8%*	20.9%*	51.8%*	7.7%
Used ATM/Bank Machine or Bank Card to Get Additional Money				
Never	96.8%*	73.9%*	28.6%*	94.0%
Sometimes	2.9%*	21.6%*	39.3%*	4.7%
Most of the Time	.1%	3.0%	14.3%*	.6%
Almost Always	.2%	1.5%	17.9%*	.7%
Borrowed Money From Someone Else While Gambling				
Never	98.9%	94.8%	67.9%*	98.0%
Sometimes	1.1%	5.2%	25.0%*	1.8%
Most of the Time	0%	0%	3.6%	.1%
Almost Always	0%	0%	3.6%	.1%
Used Credit or Credit Cards to Get Money For Gambling				
Never	99.7%*	94.8%*	78.6%*	99.0%
Sometimes	.3%	4.5%	14.3%*	.8%
Most of the Time	0%	0%	3.6%	.1%
Almost Always	0%	.7%	3.6%*	.1%
Used Money Intended For Another Purpose While Gambling				
Never	99.2%*	87.3%*	46.4%*	97.4%
Sometimes	.8%*	11.9%*	37.5%*	2.2%
Most of the Time	0%	0%	3.6%	.1%
Almost Always	0%	.7%	12.5%*	.3%

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

As expected, alcohol and especially tobacco use while gambling increases with risk for problem gambling.

While most Problem Gamblers (64%) consume alcohol on at least an occasional basis, only about one third regularly drink while gambling, with the vast majority reporting never (60%) or only sometimes (27%) gambling while "drunk or high".

It is use of additional sources of money while gambling that is the strongest indicator of risk for problem gambling.

No Risk gamblers rarely, if ever, access additional sources of money when gambling. The use of ATMs is exclusively reported by At Risk gamblers, especially those scoring at highest levels for problem gambling.

The differences in behaviours observed among the risk segments are again primarily related to the type of gambling activities associated with risk for problem gambling. As risk for problem gambling in Nova Scotia increases, so too do participation rates in Video Lottery and Casino gambling, both of which are offered in licensed establishments that generally have also provided gamblers with smoking privileges[35] and easy access to various cash sources. Not surprisingly, No Risk Gamblers, who largely gamble regularly on lottery ticket games, are less likely to be using any of these substances or services while gambling.

While this analysis approach does serve to highlight distinctions among the CPGI risk segments, as an alternative it may be advantageous to adjust the base of the measures to reflect results by type of gambling activity rather than type of gambler. This may yield more meaningful examination of the role of alcohol, tobacco and access to financial resources in contributing to problem gambling, rather than basing comparisons largely between those who purchase lottery tickets and those involved in VLT/Casino gambling.

Under the current scenario, use of alcohol, tobacco and sources of additional money while gambling are all associated with higher risk for problem gambling.

Almost two-thirds of high risk gamblers consume alcohol on at least an occasional basis, with only about one-third usually drinking each time they gamble. Yet, the majority (60%) report that they *never* gamble when they are "impaired" or under the influence of alcohol or drugs (i.e., "drunk" or "high"). A similar proportion of At Risk (6%) and Problem Gamblers (11.9%) indicate that they *almost always* gamble while under the influence of alcohol and/or drugs.

Use of cash resources appears to be a stronger indicator of risk for problem gambling with the vast majority of those scoring for Problem Gambling accessing ATM/bank machines to get additional money while gambling (71% versus 26% of At Risk Gamblers). These gamblers are also significantly more likely to borrow money from others during play (32% versus 1% to 5%), use credit cards to get more money to gamble (21% versus .3% to 4.5%) and especially gamble with funds earmarked for another purpose (54% versus 13% for At Risk Gamblers).

[35] In January 2003, a smoking ban in public places was introduced in Nova Scotia. Differences surrounding municipal and provincial regulations led to a three month extension/grace period for retail operators to adjust and comply. Many licensed establishments sought to meet compliance by building enclosed ventilated smoking areas, most of which included the VLT machines. The Casino was initially exempt but has become voluntarily smoke-free in June 2003 after public debate. In some municipalities, smoking is allowed in licensed establishments after 9:00 p.m. Most of this activity occurred during data collection for the study.

Awareness and Use of Problem Gambling Support Services

To assist the NSOHP in assessing awareness, use and potential demand for gambling-related service support, all adults participating in the study were asked a series of questions including:

- Unaided and aided awareness of specific support services available in Nova Scotia
- Personal exposure to problem gambling at a household, family and community level
- Use of informal and formal support services among those exposed to problem gambling
- Barriers to use of formal services
- Suggestions for improving problem gambling support services

Awareness of Problem Gambling Services Available in Nova Scotia

Almost two-thirds (62.9%) of adults in Nova Scotia have heard of some kind of program or service to assist people who are encountering problems with their gambling, with just under half (47.6%) reporting awareness of such services to assist families affected by gambling problems. When asked to reference these problem gambling services, less than half (47.3%) of those surveyed could cite a specific service with under one-third mentioning any one of the primary programs and services offered in the province. Thus, while general awareness that problem gambling services exist is high, familiarity of what such services actually consist is much lower.

Table 27: Awareness of Problem Gambling Support Services by Risk For Problem Gambling

	Risk For Problem Gambling (CPGI Score)				Total Adults
	Non-Gamblers (n=299)	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	(n=2800)
Awareness of Any Assistance Programs/Services:	**38.5%**	**64.5%**	**82.8%**	**76.8%**	**62.9%**
*For Problem Gamblers**	*38.5%**	*64.5%**	*82.8%**	*76.8%**	**62.9%**
*For Family of Problem Gamblers**	*26.8%**	*48.9%**	*62.7%*	*69.6%*	**47.6%**
Awareness of Specific Programs:					
Gamblers Anonymous (Total Recall)*:	**49.8%***	**76.4%***	**90.3%***	**78.6%***	**74.3%**
Unaided Recall (Top-of-Mind)	*13.0%**	*31.7%*	*39.6%*	*30.4%*	**30.0%**
Aided Recall (Prompted)	*36.8%**	*44.7%*	*50.7%**	*48.2%*	**44.2%**
Addictions Services (including Detox, Community Programs):*	**41.5%***	**62.3%***	**74.6%***	**78.6%***	**61%**
Unaided Recall (Top-of-Mind)	*9.0%**	*12.0%*	*14.9%*	*17.9%**	**11.9%**
Aided Recall (Prompted)	*32.4%**	*50.3%*	*59.7%*	*60.7%*	**49.1%**
Gambling Help Line (1-800 number):*	**39.1%***	**52.8%***	**72.4%***	**91.1%***	**53%**
*Unaided Recall (Top-of-Mind)**	*14.4%**	*20.8%**	*39.6%**	*51.8%**	**21.6%**
Aided Recall (Prompted)	*24.7%**	*32%**	*32.8%*	*39.3%**	**31.4%**

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

GAMBLERS ANONYMOUS

Gamblers Anonymous elicits the highest rates of top-of-mind, unaided recall (30.0%) with an additional 44.2% of adults recognizing the service once prompted as to whether or not it is available in the province. Overall, 74.3% of adults correctly identified this service as being offered in Nova Scotia. Recall of the program is significantly higher among gamblers, with 75%+ reporting awareness when prompted. Although just under half of non-gamblers recognize G.A., this is still the problem gambling service recalled most often. Top-of-mind awareness for G.A. tends to be higher in DHA 9 (Capital) and DHAs 7 & 8 (Eastern) (≈ 32%) than in DHAs 4, 5 & 6 (Northern) or DHAs 1, 2 & 3 (Western) (≈ 26%).

ADDICTION SERVICES (NSOHP)

Overall awareness for problem gambling support through Addiction Services (NSDOH) is lower at 61%, and only a minority of adults had unaided recall of any programs related to Addictions Service in relation to problem gambling support in the province (11.9%). When specifically asked whether or not they had heard of any problem gambling assistance provided through Addiction Service, half of all adults surveyed responded affirmatively. Unaided recall for Addiction Services is higher among those adults at Moderate to Severe Problem Gambling levels as compared to non-gamblers (18% versus 9%).

GAMBLING HELP LINE (NSOHP)

Unaided recall for the Problem Gambling Help Line (1-800 number) is twice as high as that noted for Addiction Services (21.6% versus 11.9%) with about one in every 20 adults citing the availability of this service without being prompted. Gamblers scoring at any level of risk for problems are significantly more likely to be familiar with the Help Line than No Risk or Non-Gamblers, with half of all those scoring for Problem Gambling mentioning the service without prompting (i.e., unaided recall). This high level of top-of-mind awareness for the Problem Gambling Help Line is most likely related to the tendency for those at higher risk to be involved in VLT gambling. Currently, the number for the Help Line has been posted on all Video Lottery Terminals in the province and, thus, may be contributing to higher rates of recall among those playing the machines.

Adults 65 years or older have lower awareness for the Problem Gambling Help Line (41.8%) otherwise there are no significant differences associated with age, gender or Shared Service Area. In terms of income, top-of-mind awareness for all of the primary services is significantly lower among those in the lowest income bracket (<$30,000/year).

Exposure to Problem Gambling

Problem Gamblers, on an individual basis, comprise a small yet distinct group in the population. However, the behaviours and consequences associated with problem gambling can impact others both at a household, extended family and community level.

Moreover, direct and indirect exposure to problem gambling has implications for the design and delivery of support service in the province.

In the 1999 Survey of Prevalence and Perceptions of Gaming in Nova Scotia (Nova Scotia Alcohol and Gaming Authority, Focal Research Consultants, September 1999), almost half of all adults in the province (49%) were personally aware of at least one person who has or, at some time in the past, had a gambling problem. This finding is consistent with other measures obtained in New Brunswick and Atlantic Canada in general.[36] In fact, Atlantic Canadians were found to be significantly more likely to report personal knowledge of a problem gambler than adults elsewhere in Canada (49% versus ≈ 21% to 32%), even though problem gambling rates are similar to those observed in almost all other provincial jurisdictions.[37] However, an individual's involvement in gambling does not necessarily have to reach a specific or clinical threshold in order to have negative effects for friends and family members. Therefore, monitoring more subjective judgments of problem gambling offers insight as to public perception, attitude and tolerance for gambling, as well as the impact of the activity for others at a household, family and community level.

In the present study, focus was refined to assess **current** rates of exposure. In discussion with the Nova Scotia Office of Health Promotion, current rates of exposure to problem gambling are perceived to more accurately reflect potential demand for community health services and, thus, are a more relevant consideration for planning purposes and resource allocation. Therefore, all adults participating in the study were questioned on the following items:

- personal knowledge of someone in Nova Scotia who is currently experiencing problems with his or her gambling
- number of people known to be currently experiencing problems
- level of relationship with (each known problem gambler)
- type of gambling activities involved for (each known problem gambler)

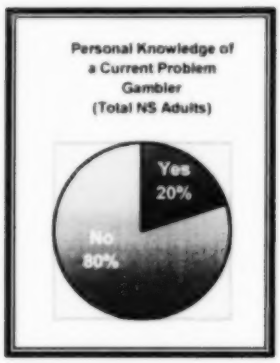
The results are examined for total adults and by risk for problem gambling (CPGI).

[36] 2001 Survey of Measure of Gambling and Problem Gambling in New Brunswick, New Brunswick Department of Health and Wellness, Focal Research Consultants, Section 5.0.

[37] Gambling in Canada: Triumph, Tragedy, or Tradeoff?, Canada West Foundation, J. Azmier, December 2000, p. 75.

Level of Exposure to Problem Gambling (All Adults)

Overall, about one in every five adults living in Nova Scotia is personally aware of at least one person who they believe is currently experiencing difficulties with their gambling.



	Risk For Problem Gambling (CPGI Score)				Total Adults
	Non-Gamblers (n=299)	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	(n=2800)
Personal Awareness of anyone in Nova Scotia with a current gambling problem:	***9.7%***	***18.5%***	***44.8%***	***80.4%***	***20.0%***
*In own Household**	*3%*	*9%**	*9.7%**	*57.1%**	***2.4%***
*Family living outside of household**	*2.7%*	*5.8%*	*17.2%*	*23.2%*	***6.3%***
*Close friends**	*2.0%*	*6.1%*	*17.2%*	*42.9%**	***7.0%***
Co-workers	*1.0%*	*3.7%*	*12.7%**	*1.8%*	***3.8%***
*Acquaintances**	*6.7%*	*10.1%*	*16.4%**	*30.4%**	***10.5%***

* indicates significant difference at minimum 95% confidence interval ($p < .05$)

Overall, 20% (= 150,000 adults in Nova Scotia) are personally aware of someone they know who is currently having a problem with their gambling. For the vast majority of these people (12.4%; = 93,000 adults), contact with the problem gambler is fairly intimate through family members or close friends.

Approximately 2.4% of adults in the province are citing exposure to problem gambling in their households, primarily due to their own gambling behaviour (1.4%), that of a spouse or partner (.5%) or another related family member (.4%). An additional .3% also notes current involvement in problem gambling by an ex-spouse, living outside of the household, suggesting that about 1% of all adults in Nova Scotia have a spouse/partner (past or present) who is currently involved in problem gambling.

Rates of exposure are similar through either family (6.3%) or close friends (7.0%), with about 3% of all adults specifically mentioning knowledge of co-workers who have a gambling problem. About 10.5% cite problem gambling by acquaintances that they know personally but with whom they have less direct contact.

Based on these responses, it can be derived that, in total, 8% of adults in Nova Scotia have personal knowledge of a current problem gambler in their immediate or extended family. This level of more intimate, direct contact increases to 12.4% of adults when problem gambling by close friends is also included. Therefore, 60% of the exposure to problem gambling reported by adults occurs at a fairly personal level. Approximately 7.7% of adults only report exposure through less direct contact with co-workers and acquaintances.

As would be expected, personal exposure to someone with a current gambling problem increases with risk for problem gambling, particularly through own household, and close friends and acquaintances. Collectively, those at any level of risk are equally likely to source family members (17% to 23% respectively) as compared to 2.5% to 5.8% of Non-Gamblers

Level of Exposure to Problem Gambling (All Adults)

Overall, about one in every five adults living in Nova Scotia is personally aware of at least one person who they believe is currently experiencing difficulties with their gambling.

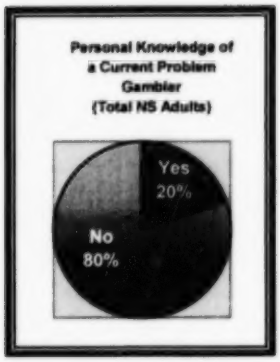


Table 28: Level of Exposure to Problem Gambling by Risk for Problem Gambling (CPGI)

	Risk For Problem Gambling (CPGI Score)				Total Adults
	Non-Gamblers (n=299)	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	(n=2800)
Personal Awareness of anyone in Nova Scotia with a current gambling problem:	9.7%	18.5%	44.8%	80.4%	20.0%
*In own Household**	.3%	.9%*	9.7%*	57.1%*	2.4%
*Family living outside of household**	2.7%	5.8%	17.2%	23.2%	6.3%
*Close friends**	2.0%	6.1%	17.2%	42.9%*	7.0%
Co-workers	1.0%	3.7%	12.7%*	1.8%	3.8%
*Acquaintances**	6.7%	10.1%	16.4%*	30.4%*	10.5%

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

Overall, 20% (≈ 150,000 adults in Nova Scotia) are personally aware of someone they know who is currently having a problem with their gambling. For the vast majority of these people (12.4%; ≈ 93,000 adults), contact with the problem gambler is fairly intimate through family members or close friends.

Approximately 2.4% of adults in the province are citing exposure to problem gambling in their households, primarily due to their own gambling behaviour (1.4%), that of a spouse or partner (.5%) or another related family member (.4%). An additional .3% also notes current involvement in problem gambling by an ex-spouse, living outside of the household, suggesting that about 1% of all adults in Nova Scotia have a spouse/partner (past or present) who is currently involved in problem gambling.

Rates of exposure are similar through either family (6.3%) or close friends (7.0%), with about 3% of all adults specifically mentioning knowledge of co-workers who have a gambling problem. About 10.5% cite problem gambling by acquaintances that they know personally but with whom they have less direct contact.

Based on these responses, it can be derived that, in total, 8% of adults in Nova Scotia have personal knowledge of a current problem gambler in their immediate or extended family. This level of more intimate, direct contact increases to 12.4% of adults when problem gambling by close friends is also included. Therefore, 60% of the exposure to problem gambling reported by adults occurs at a fairly personal level. Approximately 7.7% of adults only report exposure through less direct contact with co-workers and acquaintances.

As would be expected, personal exposure to someone with a current gambling problem increases with risk for problem gambling, particularly through own household, and close friends and acquaintances. Collectively, those at any level of risk are equally likely to source family members (17% to 23% respectively) as compared to 2.5% to 5.8% of Non-Gamblers

and No Risk Gamblers. This suggests that those at any level of risk for problems are more likely to have other family members also involved at high risk or problem levels whereas Problem Gamblers are also citing high levels of exposure through friends and others (presumably more likely to be encountered at the gambling venues frequented most often by the Problem players).

There are no significant differences observed in overall exposure rates for problem gambling by Addiction Services Shared Service Area, gender, or income. Only seniors aged 65 years or older are less likely to report personal knowledge of someone with a gambling problem (9.9% versus < 65 years: 18% to 24%), primarily due to uncertainty as to whether or not someone they know is having gambling problems. However, the fact that 9.9% of these oldest adults in the province report any firsthand knowledge of a problem gambler underscores the pervasiveness of the issue.

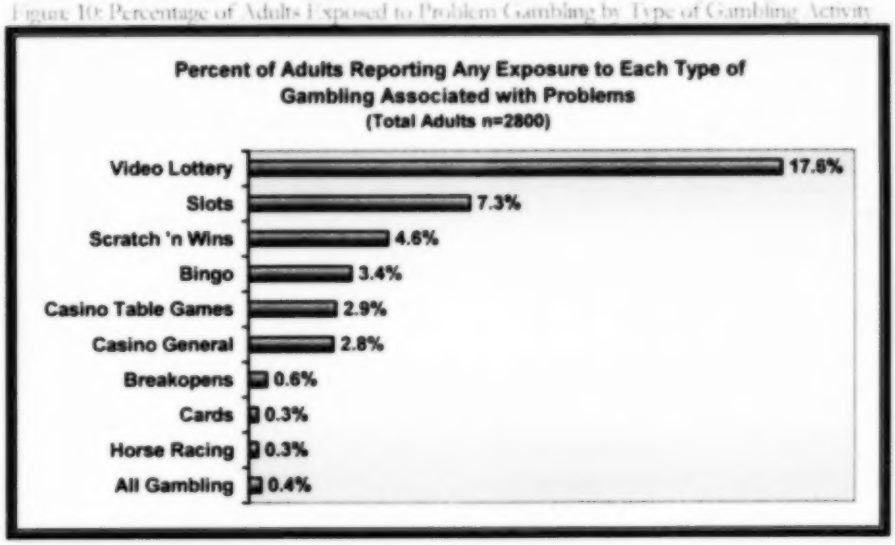
As noted for adults' self-reports of problem gambling, Video Lottery is mentioned most often in association with general exposure to problem gambling through friends and family members (17.6% of adults personally know at least one person in Nova Scotia who currently has a problem with VLTs).

While about 86% of those who personally know any Problem Gamblers cite VLTs as being involved, about half as many (42%) are now reporting exposure to problems associated with Casino gambling (8.5% of adults cite problems with Casino gambling, especially Slots: 7.5%).

Scratch 'n Wins, Bingo and Casino Table games are only noted by 3% of adults as playing a role in the gambling problems of someone they know.

Exposure to Problem Gambling by Type of Activity

Figure 10: Percentage of Adults Exposed to Problem Gambling by Type of Gambling Activity



VLTs drive the majority of exposure to problem gambling in Nova Scotia. Overall, 17.6% of all adults, representing 86% of those who report any first-hand knowledge of someone with a gambling problem, cite Video Lottery as the associated activity. This heavy bias towards VLTs is consistent in all Shared Service Areas, by gender, across all age categories and income categories. Again, the oldest adults in the province are less inclined to mention VLTs (7.9%) than those who are under 65 year of age. It is also noteworthy that 74% of those identified as Problem Gamblers specifically mention exposure to problem VL gambling either through their own involvement or problem gambling by someone else.

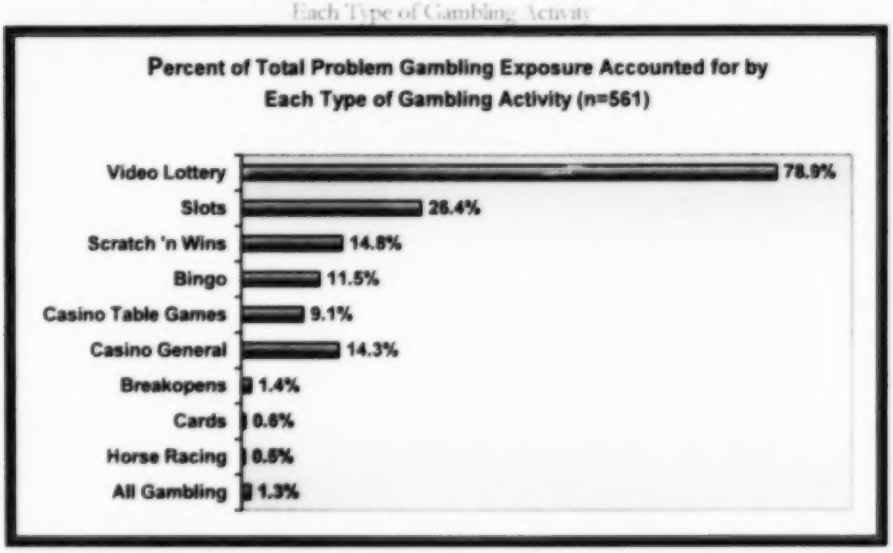
Collectively, 8.5% of adults mentioned some type of Casino gambling, which is about half of the association noted for Video Lottery (i.e. 42.5% of those who know someone with a current problem note at least one person who has a problem with Casino Gambling versus 86% aware of someone with a VLT gambling problem).

As a category on its own, Slot Machines are a distant second to VLTs, reported by 7.3% of all adults as playing a role in the gambling problems adults are exposed to in Nova Scotia. Scratch 'n Wins (4.6%), Bingo (3.8% of adults), and Casino Table games (2.9%) are all mentioned by fewer than one in five of those exposed to problem gambling. General gambling problems were reported by only .4% of the population, suggesting that, similar to adults' self-reported experience, in Nova Scotia problem gambling is perceived to be more activity-specific rather than generalized.

Number of Problem Gamblers Personally Known to Adults

On average, those adults who cite exposure to problem gambling know about 4 people who they believe are experiencing difficulties, with half reporting knowledge of 2 Problem Gamblers or less (mean=4.2; median=2). When taken as a proportion of the total number of gamblers known to be experiencing problems, Video Lottery continues to be implicated in the majority of problems identified (78.9%), however, Casino gambling, both independently for Slots (26.4%) and Table games (9.1%) as well as for Casino gambling in general (14.3%), is collectively playing a role for almost half (46%) of all people believed to have a gambling problem.

Figure 11: Percentage of Total Exposure to Problem Gambling Accounted for by Each Type of Gambling Activity



Personal Assistance to Problem Gamblers

Table 29: Percentage Providing Assistance to Problem Gamblers by Risk for Problem Gambling (CPGI)

	Risk For Problem Gambling (CPGI Score)				Total Adults
	Non-Gamblers (n=299)	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	(n=2800)
Percentage who have ever provided personal assistance to a problem gambler: *	2.7%*	4.0%*	17.9%*	26.8%	5.0%
Financial Assistance*	1.3%*	2.6%*	12.7%*	23.2%*	3.4%
Other types of Assistance (non-monetary)*	2.3%*	2.5%*	9.7%*	12.5%*	3.0%

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

Approximately 5% of all adults in Nova Scotia have provided either financial (3.4%) or other non-monetary assistance (3.0%) to someone who is experiencing problems with their gambling.

Likelihood of providing financial help increases with risk for problem gambling. Almost one-quarter (23.2%) of Problem Gamblers have given money to someone they believe is having a gambling problem. However, these same adults are only half as likely to have provided other, non-monetary aid such as groceries, babysitting, place to stay, use of vehicle (12.5%). There is no significant difference between At Risk and Problem Gamblers in the provision of non-monetary assistance. Despite the association with risk, it is important to keep in mind that about two-thirds of those providing any help to Problem Gamblers are comprised of No Risk Gamblers. Thus, this segment is an important source of assistance for gamblers in Nova Scotia.

Use of Problem Gambling Services

Table 30: Percentage Seeking out Assistance For Those Exposed To Problem Gambling by Risk for Problem Gambling

	Risk For Problem Gambling (CPGI Score)				Total Adults
	Non-Gamblers (n=299)	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	(n=2800)
Percentage of those who are currently exposed to a problem gambler and have sought out information or assistance for a gambling problem:	1.7%*	3.5%*	11.2%*	17.9%	4.0%
To Help Self	—	.2%	—	17.9%	.5%
To Help Someone Else	1.7%	3.3%	11.2%	1.8%	3.5%

At this time, 4% of adults in Nova Scotia have sought out any information or assistance to help with a current gambling problem.

Consistent with previous results in the province, the vast majority (≈ 87%) were motivated to help someone else with a gambling problem.

About .5% of adults, representing just over one-third of those self-identifying problems with their gambling, have sought out help for a personal problem with gambling.

The percentage of adults seeking information or assistance for a current gambling problem increases with risk for problem gambling, with those scoring at Problem levels almost exclusively motivated by their own gambling behaviour. Conversely, those scoring below 3 on the CPGI are almost entirely responding to assist someone else and comprise the majority of those seeking assistance in the province (72% of those seeking information or assistance).

Table 31: Use of Information And Services For Those Exposed To Problem Gambling by Risk for Problem Gambling (CPGI)

	Risk For Problem Gambling (CPGI Score)				Total Adults
	Non-Gamblers (n=299)	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	(n=2800)
Percentage Accessing Informal Services:*	**1.0%**	**1.4%**	**4.5%**	**10.7%**	**1.7%**
Spouse or Partner	—	.5%	.7%	5.4%	.6%
Other Family and Friends	1.0%	.7%	2.2%	10.7%*	1.0%
Others (e.g. employer, church)	—	.4%	2.2%	3.6%	.5%
Percentage Accessing Formal Services: *	**1.3%**	**2.9%**	**10.4%**	**16.1%**	**3.8%**
Gamblers Anonymous (GA)	.7%*	1.3%*	4.5%	7.1%*	1.5%
Gambling Help Line	.3%*	1.0%	2.2%	5.4%*	1.1%
Family Doctor/Physician	.3%	.6%	3.7%*	10.7%*	1.0%
Addictions Services	.3%*	.7%*	2.2%	3.6%*	.8%
Hospital/Health Centre	.3%	.3%	.7%	—	.3%
Private Therapists	—	.2%	.7%	—	.2%
Other (various)	—	.4%	2.2%	—	.5%

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

About 3.8% of adults in Nova Scotia have sought out formal assistance to help either themselves or someone else with a current gambling problem. Use of services increases with risk for problem gambling, although Problem Gamblers will only represent about 10% of all those who are currently contacting such services. The majority will be comprised of people trying to help someone else with a problem.

In general, family doctors are accessed as often as other designated problem gambling services, especially by those at highest risk for gambling problems, suggesting that this can be an important contact point for disseminating information.

Adults in Nova Scotia are twice as likely to be contacting formal sources of assistance as to go to informal sources such as family, friends and co-workers (3.8% versus 1.7%). Friends and family tend to be relied upon most often by gamblers at any level of risk for problems, yet 90% of these at risk gamblers who are trying to get help eventually seek out formal services for assistance.

It is noteworthy that Family Physicians, Addiction Services, G.A. and the Problem Gambling Help Line are each being accessed by a similar percentage of adults, of which the majority will be Non-Problem Gamblers seeking out information to assist them in helping someone else. However, among Problem Gamblers their Doctor is more likely to be sourced (10.7%) than other designated problem gambling services such as the Problem Gambling Help Line (5.4%), or Addictions Services (3.6%).

Reasons for Not Contacting Formal Services

In total, 19.5% of those who know someone they believe is having problems with their gambling contacted an agency or service for help (3.8% of adults; n=108). The remaining respondents (16% of adults; n=450) were all asked for the reasons why they did not contact any sources or seek out information.

Primary barriers to use centered on reluctance to get involved and uncertainty as to whether or not it was *"appropriate or necessary to become involved"* (42%). Much of the hesitancy to act is

motivated by the feeling that it is *"the responsibility of the player to do something about it"* and that without this initiative *"it wouldn't work anyway"* (35%).

It is considered a very private matter, that their relationship with the person *"was not close enough"* and that they didn't have enough information about *"what was happening"* for the person (20%).

Primary barriers in seeking out assistance to help someone else with a gambling problem center on reluctance to get involved due to uncertainty related to the problem itself and the problem gambler's response to any intervention.

Many believed that any intervention *"would not be welcomed"* and some expressed concerns and fears about the *"person's reaction"* and other repercussions (10%).

Lack of motivation was also cited with respondents noting that it was *"inconvenient"*, *"too hard"* or *"too much work"* to find out what to do (8%). A similar percentagealso stated that they didn't really *"think that problem gambling was so bad"*, *"it's not like being addicted to drugs or something"*.

In some cases, the person was *"already getting support and help from others"* which pre-empted the need for someone to act (8%).

For those who are personally experiencing difficulties or identified as Problem Gamblers (n=24), primary barriers to seeking out formal assistance consist of concerns about privacy, embarrassment, lack of understanding or knowledge about what is out there to help, inconvenience of getting any assistance, belief that what is currently available can't help them and a belief that they must overcome the problem on their own with support from friends and family.

Suggested Improvements for Services Offered to Problem Gamblers

Everyone who personally knows someone who is experiencing problems with their gambling was asked what, if anything, would improve the services offered for Problem Gamblers in Nova Scotia.

SUGGESTED IMPROVEMENTS	
More Advertising	30%
Ban VLTs (removal)	22%
Improved access to info	18%
Education/Prevention	10%
Restrict VLTs	10%
More/active Intervention	8%

The two most popular responses consisted of *"more advertising and promotion"* for the services (30%) and *"ban or get rid of the machines"* (22%). There was an additional 10% that argued for *"reduced access"* to the machines by restricting them to controlled locations or casino venues. Both suggestions were endorsed more strongly by those At Risk for problem gambling. Two-thirds of those scoring for Problem Gambling argued for elimination or restrictions for Video Lottery (67% versus ≈ 27% in the other risk segments). All adults felt that more advertising was essential to ensuring people are aware of the issue and know where to go to get help or information.

Improved distribution and access to information and materials (18%) and greater emphasis on education and prevention (8%) were also mentioned by those exposed to problem gambling. In particular, education, prevention and intervention need to be more visible and accessible.

Other Substance Use and General Health

The following section examines substance use and general mental health correlates by risk for problem gambling. This not only provides information regarding co-morbidity but also positions prevalence for problem gambling within the context of other community and public health issues falling under the mandate of the Office of Health Promotion, Addictions Services.

Substance use measures were adapted from substance use/abuse surveys conducted by the former Addiction Research Foundation and in continued use by the Centre for Addiction and Mental Health[38] and Health Canada.[39] In addition, self-identified reports of lifetime, current problems and problem resolution were included for comparative purposes.

Mental health measures were also adapted from the CPGI mental health correlates that have been used in other prevalence studies.

In the current survey, all respondents were asked a series of questions surrounding their use of tobacco, alcohol, prescription and non-prescription drug use to determine:

- Trial (ever used)
- Current usage patterns/consumption rates
- Self-reported dependency or associated problems
- Problem resolution

General health and well being measures consisted of:

- Past year experience of a number of problem gambling correlates and whether or not the experience was related to gambling by self or others (including job loss, relationship problems, financial problems, loneliness, depression)
- Overall perception of health compared to others the same age

The findings are presented for total adults and by risk for problem gambling.

[38] Adlaf, E.M., Ialomiteanu, A. Paglia, A. (2000) CAMH Monitor 2000: Technical Guide. Toronto: Centre for Addictions and Mental Health.

[39] MacNeil, P., Ikuko, Webster. (1995). Canada's Alcohol and Other Drugs Survey 1994: A Discussion of the Findings. Ottawa: Health Canada.

Use of Other Substances

Smoking, self-reported problems (past and current) with alcohol, non-prescription drugs, and the use of prescription medications (for pain, to sleep, anxiety or depression) all increase with risk for problem gambling.

However, despite the strong association, only a minority of Problem Gamblers are currently experiencing any difficulties with other substance use, with the exception of Tobacco which 54% of high risk gamblers smoke daily.

Table 32: Tobacco, Alcohol, Non-Prescription Drug Use by Risk for Problem Gambling (CPGI)

	Risk For Problem Gambling (CPGI Score)				Total Adults
	Non-Gamblers (n=299)	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	(n=2800)
Tobacco :					
Ever Smoked (100+ cigarettes)*	41.8%*	55.4%*	66.4%*	78.6%*	**55.0%**
Former Daily Smoker	30.4%	29.6%	29.9%	25.0%	**29.6%**
Current Daily Smoker*	11.0%*	23.6%*	35.8%*	53.6%*	**23.5%**
Current Occasional Smoker	1.3%	2.5%	4.5%	5.4%	**2.5%**
Alcohol :					
Ever Consumed Alcohol	87.3%*	95.3%	96.3%	100%	**94.6%**
Consumed in Last Year	60.9%*	82.7%	87.3%	89.3%	**80.7%**
Regular Monthly Consumption	9.4%*	17.8%	21.6%*	12.5%	**17.0%**
Regular Weekly Consumption	17.1%*	32.0%*	42.5%*	48.2%*	**31.3%**
Ever had a problem with Alcohol	5.0%	5.0%	16.4%*	26.8%*	**6.0%**
Currently have a problem with Alcohol	.6%	1.1%	6.0%*	12.5%*	**1.5%**
Non-prescription Drugs (illicit, non-regulated) :					
Ever used Non-Prescription Drugs*	13.7%*	26.6%*	46.3%*	58.9%*	**26.8%**
Used in Last Year	4%*	8.8%*	23.2%	26.8%	**9.3%**
Regular Monthly Use	2.3%*	4.6%*	14.2%	16.1%	**5.1%**
Ever had a problem with Non-Prescription Drug use	.3%	1.2%	2.2%	8.9%*	**1.3%**
Currently have a problem with Non-Prescription Drug use	—	.2%	.7%	3.6%*	**.3%**

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

TOBACCO

According to the findings, it can be estimated that approximately 55% of adults have ever smoked, with 23.5% of adults in Nova Scotia characterized as current daily smokers. Regular daily smoking increases with risk for problem gambling such that just over half of all those identified as Problem Gamblers are smokers, as compared to only 11.0 % of Non-Gamblers.

ALCOHOL

Consumption rates for alcohol are less skewed than smoking rates by risk for problem gambling. Only Non-Gamblers are less inclined to have ever consumed alcohol (87%), to have had any drinks in the last year (60.9%), or to be regular drinkers (26.5%). Those at any level of risk for problem gambling are more inclined to report drinking on a regular weekly basis than No Risk Gamblers but, overall, there are no significant differences among any gamblers in the

percentage consuming alcohol each month. However, there is a significant relationship between self-reported alcohol and gambling problems. The percentage who report past or current problems with alcohol increases with risk for problem gambling. Despite this strong relationship, only a minority of adults scoring for Problem Gambling are also reporting a current drinking problem (12.5%). Among those scoring for Severe Problem Gambling in the current study (CPGI score=8+; n=21) 19% are self-reporting a concurrent problem with alcohol. Thus, while there is a strong association between alcohol and gambling problems, the majority of problem and high risk gamblers are not reporting alcohol problems nor consuming at rates that differ significantly from non-Problem Gamblers.

NON-PRESCRIPTION DRUG USE

Non-Prescription (illicit) drug use by adults in Nova Scotia is substantially lower than alcohol use with 26.8% of adults having ever tried any forms of these non-regulated substances, 9.2% reporting use in the past year, and only 5.1% using on a regular monthly basis. In contrast to findings for alcohol consumption, those at any level of risk for problem gambling are more likely to be using non-prescription drugs, in the past or currently. This likely reflects the younger age skew for those identified as being at risk for problem gambling. The only difference between the At Risk and Problem Gamblers is observed for self-reported problems. Again, the percentage of adults reporting non-prescription drug problems increases significantly with risk for problem gambling. About 9% of those scoring for gambling problems also report having had a drug problem in the past, with 3.6% reporting current problems associated with their illicit drug use.

Table 33: Prescription Drug Use by Risk for Problem Gambling (CPGI)

	Risk For Problem Gambling (CPGI Score)				Total Adults
	Non-Gamblers (n=299)	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	(n=2800)
Ever used any of the following Prescription Medications:					
To sleep	24.1%	17.7%	17.2%	28.6%	**18.6%**
To relieve pain	46.8%*	51.2%	64.9%	66.1%	**51.7%**
To reduce anxiety (panic attacks)	7.4%	8.7%	11.9%	14.3%	**8.8%**
To treat depression	9.7%	8.7%*	12.7%	17.9%*	**9.2%**
Used any in the last year:					
To sleep	13.0%	10.8%	7.5%	21.4%*	**11.1%**
To relieve pain	24.1%*	31.1%	39.6%	37.5%	**30.9%**
To reduce anxiety (panic attacks)	4.3%	5.7%	7.5%	12.5%	**5.8%**
To treat depression	5.7%	5.7%	6.7%	16.1%*	**5.9%**
Ever had a problem with use of any of these prescription drugs	1.3%	1.2%	2.2%	8.9%*	**1.4%**
Currently have a problem with any of these prescription drugs	.7%	.4%	.7%	3.6%*	**.7%**

During the past year, Problem Gamblers are more likely to have used prescription medication to help them sleep or for depression as compared adults in any of the other Risk Segments. In fact, almost one in 5 adults scoring for Problem Gambling took medication for these reasons over the past year.

PRESCRIPTION DRUGS

There is less variance in prescription drug use among the CPGI risk segments. Non-Gamblers are less likely than those at any level of risk for problem gambling to have ever used prescribed pain medication (46.8% versus ≈ 65%), or to have used it in the past year (24.1% versus ≈ 38%). Problem Gamblers are more likely to have used medication to treat depression (16.1% versus ≈ 6%) or to help them sleep (21.4% versus ≈ 10%). Almost identical to results for recreational drugs, reported problems with prescription medication increase with risk for problem gambling, with approximately 3.6% of Problem Gamblers noting a prescription drug dependency.

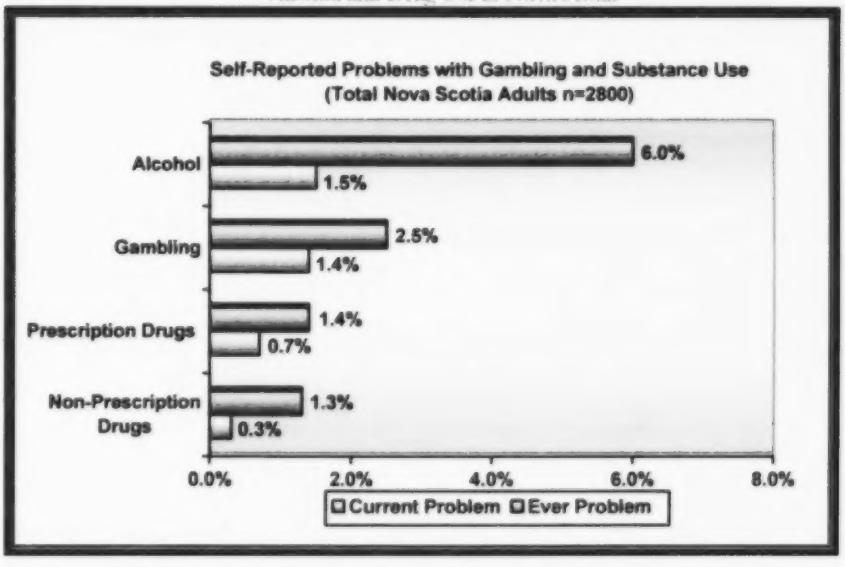
Self-Reported Problems with Substance Use and Gambling

Health Canada states that all smoking is high risk and therefore tobacco use is not included in the prevalence comparison, even though half of all Problem Gamblers smoke on a daily basis.

The percentage of adults reporting current problems with either alcohol or gambling in Nova Scotia are comparable.

Prescription drug problems are reported by about half as many adults (0.7%) but are still over twice as high as self-reported problems with illicit drug use in the province (0.3%).

Figure 12: Comparative Prevalence for Self-Reported Problems with Gambling, Alcohol and Drug Use in Nova Scotia



Based on self-reported past and current problems for alcohol, gambling, prescription and non-prescription drug use, it can be estimated that, comparatively, the community health implications for gambling are currently similar to those for alcohol, with rates that exceed self-reported problems for both prescription drugs (as measured in the survey) and non-prescription drug use in Nova Scotia.

General Health and Well Being

Table 34: General Health and Well Being by Risk for Problem Gambling (CPGI)

	Risk For Problem Gambling (CPGI Score)				Total Adults
	Non-Gamblers (n=299)	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	(n=2800)
Income Loss/Job Loss:					
Experienced in past year*	4.7%	7.6%	16.4%	25.0%	8.0%
Related to gambling of self or others	—	1%	—	5.4%	.2%
Debt or Financial Problems:					
Experienced in past year	6.0%*	11.0%*	26.9%*	44.6%*	11.9%
Related to gambling of self or others	—	.2%	1.5%	17.9%	.6%
Loss of Spouse or Partner:					
Experienced in past year	7.0%	4.1%*	3.7%*	14.3%*	4.6%
Related to gambling of self or others	—	1%	—	1.8%	.1%
Relationship Problems:					
Experienced in past year	4.7%	6.8%	11.9%	37.5%*	7.5%
Related to gambling of self or others	—	.2%	1.4%	5.4%	.5%
Health Problems:					
Experienced in past year	23.7%	20.7%	23.1%	26.8%	23.1%
Related to gambling of self or others	—	—	.7%	5.4%	.2%
Work Problems:					
Experienced in past year	2.3%*	6.2%*	15.7%	16.1%	6.5%
Related to gambling of self or others	—	—	.7%	5.4%	.2%
Loneliness/Increased Isolation					
Experienced in past year	9.0%	6.2%*	11.2%*	23.2%*	7.1%
Related to gambling of self or others	—	—	.7%	1.8%	—
Depression:					
Experienced in past year	6.4%	7.2%	9.0%	21.4%*	7.5%
Related to gambling of self or others	—	.1%	.7%	1.8%	.2%

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

Over the past year, a minority of adults in Nova Scotia (38%) have experienced any of the negative life situations or circumstances measured, although this climbs with risk for problem gambling to 71% of all those scoring for Problem Gambling.

With the exception of health-related problems, which occur equally among all adults, Problem Gamblers are more likely to have experienced all of the items. Almost one in two cite debt and financial problems, one in three note relationship problems and one in four report job and income losses over the past 12 months. For about one out of every 5, depression, loneliness, and work-related problems were also experienced.

In the majority of instances, gambling is not cited as a contributing factor although about 40% of those scoring for Problem Gambling attribute financial problems and debt to their gambling.

Gambling is implicated in about 6% of all relationship problems reported by adults in the province and about 5% of all financial problems in Nova Scotia over the past year.

By obtaining estimates of the general incidence of the events and then determining if the experience was related to gambling (either self or others), it is possible to assess whether or not certain situations/experiences are risk factors or consequences of gambling.

The preliminary results suggest that depression, loneliness and/or loss of spouse or partner, are more often reported to be unrelated to gambling and, thus, may be precipitating factors or vulnerabilities that precede problems. Financial problems are more likely to be cited as a consequence of play (although not always, suggesting that pre-existing "money problems" may be a risk factor as well as a consequence of problem gambling.

Over the past year, the majority of adults in Nova Scotia have not experienced any of the items measured (61.8%). This tends to be true for Non Gamblers and No Risk Gamblers, but reverses dramatically among those scoring for Problem Gambling. In total, 71% of Problem Gamblers reported experiencing at least one of the 8 measures for general health and well being. There were no differences among any of the four risk categories for physical health problems (≈ 23%), although past year incidence for all other measures increases with risk for problem gambling.

Only work-related problems (≈ 16%) and income or job loss (16.4% to 25.0%) did not differ significantly between At Risk and Problem Gamblers.

Those scoring as Problem Gamblers were more likely to report experiencing the following over the past 12 months:

- Debt or financial problems (44.6%)
- Relationship problems (37.5%)
- Loneliness or increased isolation (23.2%)
- Depression (21.4%)
- Loss of spouse or partner (14.3%)

Respondents were specifically questioned as to whether or not gambling, by either themselves or someone else, had played any role in any of the negative situations experienced over the past year.

Based on total responses for all adults, it can be estimated that gambling was involved in about 6% of relationship problems noted, about 5% of financial problems or debt incurred over the last year in Nova Scotia, and about 3% of all work-related problems.

Among Problem Gamblers (n=56), gambling was cited as a contributing factor by 40% of those experiencing any financial problems (n=25) and by 20% of those reporting income or job losses (n=14). The majority of depression (n=12) and loneliness (n=13) experienced was almost entirely unrelated to gambling (92%), suggesting that such conditions may be precipitating factors for gambling problems rather than occurring as a consequence of involvement in the activity. This relationship was also observed for loss of spouse or partner (n=8), only one of whom reported that gambling played a role.

In terms of financial impact and whether financial problems may also precipitate problems with gambling rather than vice versa, the results were also examined for At Risk Gamblers. These adults are scoring at risk for problems and are significantly more likely than No Risk Gamblers to have reported financial problems over the past year. Yet, only 5.5% of those At Risk

Gamblers reporting financial problems or debt (n=36) indicate that gambling is a contributing factor. Either these adults are not recognizing the financial impact of their gambling behaviour or pre-existing financial problems may be part of the reason these adults are vulnerable to gambling problems (e.g., gambling in order to alleviate money problems).

Despite significant differences in mental health correlates, there is no significant variance in self-reported "state of health" among any of the risk segments.

Table 35: Comparative State of General Health by Risk for Problem Gambling (CPGI)

	Risk For Problem Gambling (CPGI Score)				Total Adults
	Non-Gamblers (n=299)	No Risk (Score=0) (n=2311)	At Risk (Score 1-2) (n=134)	Problem (Score 3+) (n=56)	(n=2800)
State of health Compared to Others Your own Age:					
Excellent	*16.7%*	*19.0%*	*15.7%*	*14.3%*	**18.5%**
Very Good	*38.8%*	*44.%*	*38.8%*	*39.3%*	**43.4%**
Good	*28.4%*	*26.2%*	*29.1%*	*28.6%*	**26.6%**
Fair	*11.0%*	*8.4%*	*14.2%*	*10.7%*	**9.0%**
Poor	*4.3%*	*1.8%*	*2.2%*	*7.1%*	**2.2%**

* indicates significant difference at minimum 95% + confidence interval ($p < .05$).

Compared to others their own age, about 60% of adults in all groups rate their personal state of health as "excellent" to "very good". Only 11% of Nova Scotian adults are reporting that their health is only fair (9.0%) or poor (2.2 %).

Section 4

Recommendations

Section 4 lists recommendations as identified by the Nova Scotia Office of Health Promotion.

1. To develop a media and resource development plan for Problem Gambling Services using social marketing. The findings from this study will be used to develop an array of new, evidence-based materials and resources to increase knowledge of problem gambling and awareness of the services available for those at any level of risk problem gambling.

2. To develop prevention programs for targeted high risk populations as identified in this study. Such target groups consist of : Regular Gamblers for continuous forms of gambling especially electronic gambling machines (VLTs, slots); adults age 19-24 years (risk reduction) ; adults age 25-34 years (risk and problem reduction); Seniors (Adults 55 years +) in particular for Casino gambling, instant lottery products and other continuous forms of gambling.

3. To develop and disseminate self help manuals and educational materials for those at any level of risk for problem gambling and their families as part of a long-term intervention strategy.

4. To develop a comprehensive research plan for Problem Gambling Services that will: set the research priorities, including the conduct of prevalence studies at 5 year intervals; focus upon the social and economic impact of gambling in Nova Scotia; and make provisions to conduct target specific studies of continuous forms of gambling which present the greatest threat to public health.

5. To develop a comprehensive training and educational program for Addiction Services staff in the district health authorities and for health and social service providers who work with those having problems with gambling and their families.

6. To develop, in a timely manner and in collaboration with the gaming sector, evidence based policies and procedures that ensure a socially responsible balance between public health interests and revenue generation.

Section 5

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